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## ORIGINAL ARTICLES.

### THE PATHOLOGY OF INTESTINAL OBSTRUCTIONS FOLLOWING ABDOMINAL AND PELVIC OPERATIONS.

BY WILLIAM EASTERLY ASHTON, M.D.,

PROFESSOR OF GYNECOLOGY IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

NOTWITHSTANDING the brilliant results that have been attained in modern abdominal and pelvic surgery, there is still much to learn and much to improve upon in our operative technique, before some of the distressing after-results of these operations are prevented, or at least rendered less frequent. Among the most important of these post-operative complications I would include intestinal obstructions. An enormous amount of literature has been written upon acute intestinal obstructions as a surgical affection, and the subject is, very properly, receiving, in our medical societies, the attention it deserves; but as yet little has been done toward solving the problems suggested by bowel-obstruction following abdominal and pelvic operations. It is, therefore, my purpose in this paper to enter into the pathology of these obstructions, and to discuss such views of the subject as my own experience and that of other surgeons may suggest.

In discussing the pathology of bowel-obstructions following intra-peritoneal operations I shall limit myself strictly to those causes dependent upon operative interference and not refer to the causes of acute obstruction from the standpoint of a surgical affection.

I shall classify the causes of post-operative obstructions as follows:

1. Adhesions between the intestine and raw surfaces.

- a. To an omental stump.
- b. To denudations of the pelvic and parietal peritoneum.
- c. To the edges of the vaginal wound following supra-pubic or vaginal hysterectomy.
- d. To a pedicle.
- e. To raw surfaces on the intestinal wall.
2. Paralysis of the intestines.
3. Local spasm of the intestines.
4. Impacted feces.
5. Bands of inflammatory lymph.
6. Adhesions between coils of intestines or be-

tween the gut and neighboring parts, due to traumatic inflammation.

7. Kinking or twisting of the intestine due to faulty technique.

8. Including the intestine within the loop of a suture of the abdominal wall or between the edges of the abdominal incision.

9. Slipping of a coil of intestine through a slit or an aperture.

*Adhesions Between the Intestines and Raw Surfaces.*—By far the greater number of bowel obstructions are due to this cause. A knuckle of gut becomes attached by adhesive inflammation to a denuded surface, a kink results and obstruction of the bowel follows.

Naturally the question will be asked: How do we explain the fact that so few cases of obstruction occur from this cause when there are so many bad pelvic cases requiring the separation of extensive adhesions? My answer is that kinking does not necessarily follow the fixation of a knuckle of intestine, unless the gut adheres in an abnormal position. In other words, if the normal position of a coil of intestine is near the position of the denuded surface, to which it adheres, obstruction will not, as a rule, follow. Furthermore, I believe that many of the cases that die after abdominal and pelvic operations, in which death is ascribed to peritonitis, are in reality undiagnosed bowel-obstructions.

The following cases present points of great interest in connection with this class of obstructions:

CASE I, reported by Meredith.<sup>1</sup> Section for a double cystoma, with extensive adhesions. *Secondary section* on the eighth day. The peritoneum was intensely red and congested, evidently in the first stage of acute inflammation. "Attention was attracted to a coil of greatly distended small intestine which was badly kinked and obstructed in consequence of the traction exerted upon it by a portion of the ligated omentum, which was closely adherent to its surface." There was no other obstruction. The patient recovered.

CASE II, reported by Krug.<sup>2</sup> Section for double pyosalpinx and ovarian abscesses. Adhesions especially extensive behind uterus. Irrigation and drainage. *Secondary section* on the fourth day. Signs of beginning peritonitis. A portion of the descending colon was found glued fast as an angular loop to the posterior surface of uterus. The patient recovered.

<sup>1</sup> London Lancet, 1886, p. 64.

<sup>2</sup> Am. Journ. of Obstet., 1890, xxiii, 1371.

CASE III, reported by Ahern.<sup>1</sup> Section for a large cyst of the right ovary. Adhesions to the brim of pelvis on the left side and to the sigmoid flexure. The raw surfaces, two in number, each half an inch in diameter. No drainage. *Secondary section* on the ninth day. The upper part of the small intestine congested and distended, adherent to the pedicle and to both denuded surfaces. Below the adhesion the bowel was contracted. The coil of intestine at the point of adhesion formed an acute angle. The patient recovered.

CASE IV, reported by Anderson.<sup>2</sup> Section for an ovarian cystoma, adherent to the parietal peritoneum, just above the position of the cecum. *Secondary section* on the twentieth day. A coil of small intestine adherent to the raw surface just above the position of the cecum. Below the adhesion the gut was collapsed, above distended. The patient recovered.

CASE V, reported by Coe.<sup>3</sup> Vaginal hysterectomy. Uterus retroflexed and adherent. An ovarian cyst on the right side, punctured and removed. No ligatures were used. Two forceps were applied to each broad ligament, and two pairs to bleeding-points in the utero-sacral folds. The peritoneal wound was left open. A tampon of iodoform-gauze was applied. At the *section* on the fifth day a loop of small intestine was found adherent to the right edge of the vaginal wound. There was no peritonitis. The gut was distended above the adhesion and contracted below. The patient died on the following morning from shock.

The following cases of "Ileus after vaginal extirpation of the uterus," quoted by Coe, from a paper by Reichel,<sup>4</sup> are of great interest:

CASE I.—*Section* on the seventh day. The lower part of the ileum was attached to the edge of the vaginal wound. The gut above was distended. There was no peritonitis. The patient died on the table.

CASE II.—(Olshausen.)—*Section* on the ninth day. A coil of ileum was found adherent to the edge of the vaginal wound. The gut was bent at an angle. The woman died in twenty-four hours. *Post-mortem*—Diffused peritonitis was found. Two other coils were found attached to the edge of the vaginal wound.

CASE III.—The patient collapsed and died on the eighth day. *Post-mortem*—Coils of intestine were found adherent to the edge of the vaginal wound. The gut above was greatly distended. The large intestine contained fecal matter. The obstruction was, therefore, not complete. There was no general peritonitis.

The following four cases of obstruction consequent upon vaginal hysterectomy are also quoted by Coe:

CASE I.—Blakemann's<sup>5</sup> patient died on the seventh

day. *Post-mortem*—The lowest part of the ileum was found adherent to the edge of the vaginal wound. The gut was distended and bent at an angle.

CASE II.—In Leopold's<sup>1</sup> patient death took place on the fourth day. *Post-mortem*—Two coils of intestine were found adherent to the edge of the vaginal wound. The gut was bent at an angle.

CASE III.—Landau.<sup>2</sup> *Section* on the seventh day. The gut was adherent to the edge of the vaginal wound. The patient died on the following day.

CASE IV.—Coe's<sup>3</sup> patient. *Section* on the second day. Two or three coils of ileum were found adherent to the edge of the vaginal wound. Gas escaped per anum after the intestine was detached. There was no peritonitis. Death took place in fourteen hours.

These cases illustrate in a forcible manner the explanations and dangers of obstructions due to raw surfaces. In every one of the abdominal sections the obstruction occurred at a point where adhesions had been separated at the time of operation. Again, in every instance the intestines were fixed in an abnormal position, and at the point of fixation formed a more or less acute angle. In the case reported by Krug, in which he found the descending colon "adherent as an angular loop to the posterior surface of the uterus," we have an instructive illustration of these points. The cases of obstruction following vaginal hysterectomy quoted also demonstrate clearly the cause of bowel-fixation and kinking dependent upon adhesive attachment of the intestine to a raw surface.

The practical operative lesson that all of these cases teach is that in performing secondary section for their relief we should know where to look for the seat of obstruction if we have kept in mind the position of surfaces denuded at the time of the original operation.

*Paralysis and local spasm of the intestines; impacted feces.*—As the pathology of all these causes of obstruction is the same, I shall discuss them under one heading. First, however, I shall cite some cases illustrating this class of intestinal blocking:

CASE I.—This case occurred in my own practice. The section was made for double pyosalpinx, with slight adhesion. Irrigation was employed, but no drainage. Death took place on the fifth day. *Post-mortem*—The small intestine for a distance of eight inches from the ileo-cecal valve was tightly contracted, causing absolute obstruction. Above the contraction the gut was greatly distended. At the seat of constriction the bowel was red and congested, but no lymph was found. The abdominal cavity was dry. There were no adhesions.

<sup>1</sup> Am. Journ. of Obstet., 1891, xxiv, 326.

<sup>2</sup> London Lancet, 1889, ii, 894.

<sup>3</sup> Am. Journ. of Obstet., 1890, xxiii, 144.

<sup>4</sup> Z.-itschrift für Geburtsh. u. Gynäk., Band xv, Heft 1.

<sup>5</sup> Archiv für Gynäk., Band xxv, Heft 1.

<sup>1</sup> Archiv für Gynäk., Band xxx, Heft 3.

<sup>2</sup> Berliner klin. Wochenschrift, 1888, No. 10.

<sup>3</sup> Am. Journ. of Obstet., 1890, xxiii, 469.

CASE II.—Reported by Baldy.<sup>1</sup> Supra-pubic hysterectomy. Extra-peritoneal treatment of the stump. *Secondary section* on the sixth day. Intestinal evacuation and drainage. Death in twenty-four hours. *Post-mortem*—The intestines were found free, "but in one or two places they had contracted so as to feel like hard cords."

CASE III.—Reported by Baldy.<sup>2</sup> The section was made for double pyosalpinx. Inflammation of some of the pelvic loops of intestine was found. *Secondary section* on the fourth day. The bowels were enormously distended. Intestinal evacuation and drainage. Death took place in twelve hours. *Post-mortem*—"There was nothing abnormal found excepting the peritonitis affecting the coils of intestine in the pelvis. There was a slight adhesion of these coils to one another."

CASE IV.—Occurring in my own practice. The section was made for chronic inflammation of the appendages. Dense pelvic adhesions were found. A *secondary section* was made on the twentieth day. The small intestines were somewhat distended, but there was no evidence of peritonitis or of pus. The descending colon was tightly packed with hard feces from the splenic to the sigmoid flexure. Bands of lymph constricted slightly the bowel near the sigmoid. The patient recovered.

The correct explanation of obstructions due to local spasm or paresis of the bowel will, most probably, be found in a study of the influence of various stimuli upon the nerves controlling intestinal peristalsis. The intestinal walls contain an automatic motor-apparatus—the plexus of Auerbach—which influences the peristaltic action of the bowel. "If this center is not affected by any stimulus, the movements of the intestines cease—comparable to the condition of the medulla oblongata in apnea. The same is true just as in the case of respiration during intra-uterine life, in consequence of the fetal blood being well supplied with O. This condition may be termed aperistalsis. It also occurs during sleep, perhaps on account of the greater amount of O in the blood during that state. All stimuli applied to the plexus myentericus increase the peristalsis, which may become so very violent as to cause evacuation of the contents of the large gut, and may even produce spasmodic contraction of the musculature of the intestine. This condition may be termed dysperistalsis—corresponding to dyspnea. The condition of the blood flowing through the intestinal vessels has a most important effect on peristaltic movements. The continued application of strong stimuli causes dysperistalsis to give place to rest, owing to over-stimulation, which may be called intestinal paresis or exhaustion."<sup>3</sup>

With these facts before us concerning the effects of the absence or the presence of stimulation upon

intestinal peristalsis we are better able to explain the pathology of these obstructions. In the first twenty-four or forty-eight hours after an abdominal section, if the case be doing well, the intestines are in a condition of aperistalsis. There are several factors concerned in bringing about this state. In the first place, the preparatory treatment of the bowels with salines, the liquid diet, and the absence of food after section leave the intestines comparatively empty, thus removing the intestinal contents as a factor in stimulating peristalsis. Again, the rest in bed for two or three days before an operation, and the enforced quiet afterward add largely to the absence of intestinal activity. This condition is not only observed after an abdominal section but also after parturition, and in fact in all cases in which the patient is required to lie quietly in bed for some time. The well-known fact that changing the position of a patient in bed relieves the tympany in some cases and favors the downward movement of gas shows the effect of exercise upon intestinal peristalsis.

The causes of operative stimulation of the intestines are exposure to the air, lowering of the temperature, bruising, operative procedures, irritating fluids, septic materials, and a neglect to thoroughly empty the bowels prior to operation. We have found that dysperistalsis and paresis depend upon the same cause, namely, an irritation of the motor center of the intestine, but the intensity and duration of the abnormal stimulation alone determine the difference between the two conditions. For example, simple intestinal congestion would most probably, even if long continued, result in a condition of dysperistalsis, while a severe inflammation on the other hand would cause a state of paresis.

In Cases I and II there was present a condition of intestinal dysperistalsis causing the obstruction. In both cases, at the beginning, this condition alone existed, but subsequently paresis of the gut above the constriction occurred, from the continued effort of the intestine to push its contents beyond the obstruction. The increased amount of gas and fluid in the bowel also aided in producing exhaustion, as these necessarily constituted a source of continued irritation. In Case I the intestinal spasm was probably the result of the congestion that was practically limited to the seat of constriction of the bowel. The cause of this congestion is difficult to determine. Possibly, it may have been due to the irritation of the intestine produced by the pus that escaped when the tubes were delivered, or the bowel may have been bruised during the operation and a traumatic peritonitis was developing at the time of death. In Case II the notes of the post-mortem examination were too superficial to be of

<sup>1</sup> Journal of Gynecology, August, 1891.

<sup>2</sup> Ibid.

<sup>3</sup> Landois, 2d Amer. edit., p. 263.



any value in determining the cause of the nodulated condition of the intestines. Case III was clearly one of intestinal paresis due to peritonitis. The adhesions found between coils of intestine after death were evidence that the peritonitis that had existed at the time of the operation had continued.

Case IV is of especial interest. The patient had a bowel-movement in forty-eight hours and everything was doing well until she fell out of bed in her sleep on the third day after operation. Now, what had happened to bring about obstruction from fecal impaction after this accident? I believe that the fall caused a traumatic peritonitis, which resulted in paresis of the colon, and while the bowel was in this condition fecal accumulation took place. After the intestine had regained its normal activity it was then unable to empty itself, on account of the great amount of fecal matter that had collected. In addition to this want of power in the gut there was also more or less constriction from bands of lymph at the sigmoid flexure, which rendered the downward passage of the feces difficult.

*Bands of inflammatory lymph.* As the result of intra-peritoneal inflammation following abdominal and pelvic operations, lymph is poured out upon the intestines, and coils of the gut become more or less adherent to each other. As a rule, no bad results ensue, but if the adhesions destroy the normal relations between the coils, or if a knuckle of gut is constricted by a band of lymph, then kinking or strangulation follows. These obstructions do not manifest themselves early after operation, because, usually, no serious interference with the movement of the intestinal fluids occurs until the bands of lymph begin to organize and contract. Montgomery<sup>1</sup> reports an interesting case of volvulus caused by bands of inflammatory lymph. Five weeks after the original operation for peritonitis, symptoms of obstruction appeared, associated with fecal vomiting. "The intestines were found matted together, so that over a yard of small intestines had to be forcibly liberated from extensive adhesions. The muscular coat was torn through at a number of points; a distinct twist was found in the small intestine, which was readily overcome by separating the bands of adhesions." The patient made a good recovery.

*Adhesions between coils of intestine or between the gut and neighboring parts, due to traumatic inflammation.* These adhesions have always been a subject of great interest to me. They result from an irritation of the serous membrane, caused by the exposure

of the intestine to the air, to lowering of their temperature, to handling or to necessary manipulations or operative procedures. Adhesions of this class are, in my experience, a necessary sequence of all intra-peritoneal operations. In fact, they are, I might say, the opprobrium of abdominal surgery, for it must, indeed, be rare to have an abdominal operation not followed by more or less fixation of the viscera.

In my experimental work upon the lower animals this fact has time and again forced itself upon me. For example, I have established a lateral anastomosis in a perfectly healthy dog without resection. At the time of operation not more than ten inches of the bowel were exposed through an incision in the abdominal wall, less than two inches in length, and every precaution was taken in the operative technique. Yet, notwithstanding these facts, when the animal was killed at the expiration of three weeks, after making an uninterrupted recovery, the intestines were so matted together that I was with the greatest difficulty able to separate the seat of anastomosis from the adherent coils of gut. This has been my experience without exception in all work upon the lower animals.

I have seen numerous illustrations of these traumatic adhesions in the human subject during secondary sections or upon post-mortem examination. In the case of a woman at the Philadelphia Hospital, who had died three weeks after a supravaginal hysterectomy, from disease of the kidneys, the intestines were found to be extensively matted together. The hysterectomy was a simple operation, uncomplicated by adhesions; the abdominal incision was small and there was no exposure of the intestines; yet, after death, extensive fixation of the gut was found.

It is a common experience, in performing secondary sections, to find the gut or the omentum adherent to the parietal peritoneum at the site of the original abdominal incision. This fact is so well recognized that great care is always taken in re-opening the abdomen to cut to one or the other side of the cicatrix, in order to avoid the danger of wounding a knuckle of adherent gut. Fortunately, traumatic adhesions are, as a rule, not followed by fatal results, as they do not cause kinking or twisting of the gut. They do, however, not infrequently cause remote trouble, by giving rise to colicky pains and a greater or less tendency to constipation.

*Kinking or twisting of the intestine, due to faulty operative technique.* These obstructions are not the result of adhesions, but occur after anastomotic operations upon the alimentary canal or after the repair of bowel-lesions. For example, a coil of intestine may be kinked or twisted by placing it in

<sup>1</sup> Philadelphia Hospital Reports, 1891.



an abnormal position in establishing an anastomosis; or, again, the bowel may be torn transversely while separating adhesions in the course of an operation, and if the opening be large, suturing the tear may result in fatal obstruction from kinking. Tears in the wall of the bowel, longitudinal to its long axis, even if extensive, may be safely closed with sutures, but a large transverse opening into the gut will, if sutured, almost certainly cause a kink.

*Including the intestine within the loop of a suture of the abdominal wall or between the edges of the abdominal incision.* At first sight these causes of bowel-obstruction may appear to the surgeon as being extremely unlikely or at least very rare. Yet, if we call to mind our own operations, as well as those of other surgeons, I think all of us will be struck by the fact that such an accident is liable to occur when the abdominal incision is closed. There is but little danger, I admit, of including a loop of intestine when the sutures of the abdominal wall are introduced, as the abdominal contents are protected by a gauze pad or a flat sponge, but it is when they are tied that the accident is likely to occur. After the pad or the sponge has been removed the intestines come in direct contact with the loops of the sutures and press up, more or less, between the edges of the abdominal wound. Naturally, therefore, it is almost impossible for the surgeon to know positively that a portion of the gut has not been caught where the sutures are tied. Of course, if the gut has been fastened to the abdominal incision, no immediate results will necessarily follow, unless the lumen of the intestine has been obliterated, leakage occurs, or kinking takes place. Consequently, in the majority of instances we are not aware that such an accident has occurred. Or, again, if the accident be followed by a fatal result, its true nature cannot be determined except by an autopsy.

Shively<sup>1</sup> reports an extremely interesting case in which death occurred five or six years after an ovariectomy as the result of obstruction of the bowel, the remote sequence of the fixation of the intestine to the abdominal incision. After the original operation the patient was always "greatly troubled with constipation and frequent attacks of colic." She was obliged to use powerful cathartic pills to keep her bowels open. On August 8, 1883, she was taken ill. "She said she was sick with an attack of colic." August 11th, fecal vomiting occurred and was followed by death. *Post-mortem*—"At the lower end of the line of the belly-cut a discolored spot, half the size of the hand, was seen. The bowel was here adherent. There were also extensive adhesions of the intestines to the sides and posterior wall of the abdomen, thus preventing

the appearance of tympany. The intestines and cavity nearly everywhere gave evidence of former inflammation; also a portion of the ileum (eighteen inches above the cecum) was adherent to and incorporated with the cicatrix corresponding to the lower angle of the original wound. Around the short portion between this and the cecum a loop of small intestine was twice twisted, forming a kind of knot and a complete and effectual barrier to the passage of the intestinal contents."

*Slipping of a coil of intestine through a slit or aperture.* This accident may occur from the following causes: 1. As a result of adhesions. For example, a band of inflammatory lymph may be so attached that an aperture is formed; or, again, a coil of the intestine or the mesentery may adhere and form a loop through which a knuckle of gut may slip. I witnessed an autopsy upon a patient who died after an abdominal section, where the omentum was found adherent to the parietal peritoneum by two distinct attachments, thus forming an opening through which the intestine might readily have passed. An instructive point in this case lies in the fact that the adhesions were caused by two omental stumps, which were left after the omentum had been ligated for adhesions in the course of the operation.

Larkin<sup>1</sup> reports a case in which death resulted from an obstruction following a jejunostomy. The original operation was performed for carcinoma of the stomach, but in less than three months afterward jejunostomy was performed on account of the development of obstructive symptoms. The patient then did well for about two months, when intestinal obstruction again occurred, and death resulted. *Post-mortem*: "There was a firm adhesion between the jejunum and the incision in the abdominal wall made in performing the gastro-enterostomy. The portion of the jejunum taken in the jejunostomy was only two to three inches above this adhesion. The piece of jejunum between these two attachments to the abdominal wall formed a little loop, and between this loop and the parietes the upper segment of the jejunum had slipped. It was firmly nipped. The intestines above were greatly dilated, and ruptured just above the seat of constriction. The intestines below were contracted."

2. From defects in the method of dealing with tears or incisions through the mesentery. Thus, if the mesentery be torn during the separation of adhesions, and the tear is not closed, or its flaps are not well sutured after a resection of the bowel, a coil of intestine is liable to slip into the opening and become nipped. 3. The slipping of a coil of intestine through the vaginal wound, after complete removal of the uterus. 4. A knuckle of gut pushing its way

<sup>1</sup> N. Y. Med. Journ., 1884, vol. xl, p. 292.

<sup>1</sup> London Lancet, 1891, ii, 1222.

through the intestinal loop formed in establishing a lateral anastomosis, without resection. 5. From fixation of the gall-bladder to the abdominal incision. 6. From openings made through the transverse meso-colon and the great omentum, to facilitate the attachment of the bowel to the stomach in performing gastro-enterostomy. In a case of carcinoma of the pylorus in which this was done the post-mortem examination showed that "almost all of the intestines were in front of the great omentum, having prolapsed through a hole in the transverse meso-colon and great omentum. There had passed all of the jejunum and ileum to within four inches of the ileo-cecal valve."

3011 WALNUT STREET.

### HERNIAE, OPERATIVE AND INOPERATIVE.<sup>1</sup>

BY THOMAS H. MANLEY, A.M., M.D.,  
OF NEW YORK.

As hernial protrusions through the lower abdomen are very common infirmities in civilized human beings, and, as they are always a source of inconvenience and physical discomfort, besides not infrequently endangering life, surgeons, since the earliest times, have actively occupied themselves with most commendable zeal with divers expedients that might effect a radical cure, or to place them in such a position as would conduce to the greatest safety and comfort.

Every sort of mechanical contrivance has been resorted to for the cure of hernia, by the traveling charlatan, as well as by many eminent operators, at one time castration being resorted to, at other times vitriol and caustics, the potential, and others, the steel clamp, suture of gold, "*point d'ort*," etc. Ségond,<sup>2</sup> in his admirable treatise on hernia, informs us that, for several centuries, various operations for the radical cure of hernia had attained considerable popularity, but all, in time, have fallen into ill-repute and been condemned, to be again revived. From the full and graphic description given by this author we can see that the methods and technique of operation in by-gone times were, indeed, manifold and varied, and that so thoroughly and completely have the ancients gone over the field that but little has remained for moderns to improve on. Hence it is, that the majority of modern hernial operations bearing the names of various surgeons are not new in any sense, but have each and all, with few exceptions, been performed many centuries ago.

The cardinal object in view, in all cases and in all times, has been the same. The most noteworthy characteristic of the attitude of surgeons toward

hernial operations has been the tendency to extremes. As recently as twenty years ago the operation for the radical cure of a reducible or incarcerated hernia was not countenanced or permitted. Now, the opposite extreme prevails, not here in America alone, but in all the principal cities of Europe. Every sort of hernia, regardless of condition, situation, age, sex, etc., is regarded as adapted for active surgical intervention. No operation yet devised will, however, always prove curative. Surgical methods will, nevertheless, permanently cure a certain proportion; properly carried out, they will relieve nearly all. In many, an operation will effect no improvement, and in certain non-strangulated hernia the mortality attending operation will always be great.

With a view of reaching a middle ground, and defining those cases in which surgical operation is justifiable, and discrediting those in which we should refuse to interfere, these notes are written.

A FEW GENERAL CONSIDERATIONS ON OPERATIVE HERNIA.—There are always certain general considerations that must never be lost sight of in all cases. We should possess, as a ground-work, a thorough knowledge of the natural history of hernia, its complications and infinite varieties, of what we expect from Nature's unaided powers, and what benefit we may derive from an intelligent, tentative therapy.

In every case in which a radical cure is undertaken, we must consider well the consequences, for not a few may suffer after operation from a relapsing hernia, which is often much more unmanageable than the primary disorder; we should, besides, invariably warn the patient of this possibility.

Dr. William T. Bull,<sup>1</sup> of New York, in a recent brochure, claimed that relapses are so frequent after surgical management that the term "radical cure" should be abandoned. Paul Ségond, in his work published ten years ago, took a similar position, claiming that any operation may kill—*peut tuer*—and that none is ever justifiable in hernia "except in those in which the dangers from delay are in direct proportion to those entailed by surgical intervention, and then only when all other expedients have failed." Félizet<sup>2</sup> takes an opposite position, though he distinctly avows that the surgeon should never permit himself to be swayed in these cases except from humane impulses and in cases that will yield to none but operative measures. He says: "While anesthetics have rendered the most painful and tedious operations painless, and rigorous antiseptics has made infection impossible, neither has changed the moral of our art; hence the scalpel should be taken up early in hernia, which becomes

<sup>1</sup> Read before the Section on Surgery and Anatomy of the American Medical Association, at Detroit, June 9, 1892.

<sup>2</sup> Cure Radicale des Hernies. Traité. Paul Ségond.

<sup>1</sup> Trans. Amer. Surg. Assoc., 1890.

<sup>2</sup> Félizet: Opér. Herniales chez les Enfants, etc., p. 17.

progressively worse with the advance of age." As all herniae operated on are radically cured, and several remain permanently so, it seems absurd to ask us to disregard the evidence of our own senses.

No sort of surgical operation can, or ever has, perfectly reconstructed anything. We may relieve a man of a dislocation, fracture, fistula, or stricture, but we have not always removed the causes that led to them or restored anything like perfection. Careful dissection of a hernia will discover defective development; a want of symmetry or uniformity in the anatomic structures in the area of the breach. Hence, he who pretends or claims for any operation, no matter how skillfully performed, that it will ever accomplish anything more than an improvement in the way of confining the viscera, or so placing them that they will give a minimum of inconvenience, trespasses too far on the credulity of his professional brethren, and makes an unsupported assertion.

The radical cure of hernia, then, is an accomplished fact, which must remain, with the same qualifications as when the words *radical cure* are employed in other operations. But, says one, the operation "may kill;" so may the act of vaccination give rise to mortal gangrene or to tetanus, or the extraction of a tooth be attended by instant death. Dr. Bull himself admits that the mortality in operations for radical cure is "practically *nil*." It is interesting to know the present attitude of M. Paul Ségond, after the lapse of ten years<sup>1</sup> (January, 1892). He says: "I now regard the operation for radical cure of hernia an excellent one, and I perform it for every species of the deformity." That the operation for radical cure of hernia has secured for itself a legitimate position in the field of surgery is best attested by the fact that to-day in every civilized country of the world it is being performed on a large scale, with most gratifying results; but it has its limitations. In properly selected cases, it is a veritable boon. These are rare. In many the operation is little better than a barbarous mutilation. It is not, then, in every case a cure-all, but an expedient to be employed only in aggravated cases when other means fail.

Where must the line be drawn between the selected and the rejected? Infantile or congenital hernia is, in the majority of cases, spontaneously curable. Accordingly, only those that increase rapidly in volume, are painful, incoercible, and liable to strangulation, should be operated on. We may examine into the etiologic, anatomic and clinical factors of each, so that a grouping and classification may simplify their study and enable us to reach logical conclusions:

1. Hernia under the tenth year.
2. Hernia in advanced age.
3. Male hernia.
4. Female hernia.
5. Congenital hernia, proper.
6. Acquired hernia, so called.
7. Laparotomy hernia.

#### REGIONAL DIVISION.

1. Complete inguinal hernia.
2. Incomplete inguinal hernia.
3. Inguinal hernia in the female.
4. Crural hernia in the male.
5. Umbilical hernia in the male.
6. Umbilical hernia in the female.
7. Ventral hernia in both sexes.
8. Obturator, lumbar and perineal hernia.

#### DIVISION ON A BASIS OF THE MORBID ANATOMY AND PATHOLOGY.

1. Simple hernia in general.
2. Incarcerated hernia.
3. Strangulated hernia.
4. Enterocoele.
5. Epiplocele, or entero-epiplocele.
6. Hernia complicated by pathologic changes in the sac.

Infantile hernia is very common in the male sex, and is attributable to a mal-descent of the testis; phimosis; or partial atresia of the urethra. When the testis in its descent contracts adhesions with the omentum or the intestine, and pulls it down into the scrotum, we have the type of hernia designated by *anatomists* congenital; it has no independent peritoneal envelope. This is a stubborn, unyielding type, which no apparatus can cure.

True umbilical hernia is often seen in babies, particularly females. With few exceptions it disappears before the infant walks.

In the inguinal hernia of the female, which cannot be reduced or controlled, a prolapse of the bladder, ovary, or uterus itself, should be carefully looked for. Dr. Barker,<sup>1</sup> of Saginaw, Michigan, has reported a case in which he discovered and removed the uterus in an inguinal hernia in a young woman. Boyer<sup>2</sup> cites the case of a young woman who was impregnated and carried her child to full term in a hernial sac. The same author reports the excision of a six-ounce urinary calculus, through a prolapsed bladder, in an inguinal hernia. I have myself within the past year removed an ovary adherent to an extended intestinal coil in the case of a young lady who had been unavailingly treated by truss-support previously to operation. It was almost needless to say that surgical operation is demanded in all very complicated cases.

<sup>1</sup> De la Valeur de la Cure Rad. des Hernies au Point de Vue du Resultat Definitif.

<sup>1</sup> Am. Journ. Gynecology, Oct., 1891.

<sup>2</sup> Boyer: Malad. Chirurg.



Unless in very exceptional instances, the hernia of the aged should not be interfered with. At this epoch of life, the bloodvessels have taken on degenerative changes, and, besides, the adhesions of the sac with the cord have undergone such fibrous induration that they are separated with great difficulty. Strangulation is an unusual event in very advanced life.

Sexual peculiarities complicate hernial operations. The presence of the spermatic cord is an embarrassing element in the inguinal operation in the male. To so close in the inguinal portals as to prevent relapse, without exercising undue compression on the spermatic vessels, is the ideal to be secured.

**HERNIA IN THE FEMALE.**—Hernia being less frequent in the female than in the male, we are less concerned with its management; nevertheless, hernia in the female is often painful, and when strangulated, attended with great mortality. The speediest and safest method of relieving it should engage our most serious study.

For anatomic reasons the inguinal type is uncommon in females, crural hernia being quite frequent. Since laparotomy has become a current operation, we are frequently seeing eventrations of the viscera, which make their way through the weakened or separated *fascia propria* into the subcutaneous tissues. When these are discovered, they should be treated by proper pressure-supports; but when they have attained great volume, surgical intervention may be considered.

At a late meeting of the British Medical Association, Lawson Tait described a method of curing hernia by performing laparotomy and reducing the protrusion from within. This is not a bad scheme if a patient has a hernia in connection with an abdominal growth—one taking advantage of the opening to remove the tumor, to introduce the fingers and replace the viscera. Except under these circumstances, it is apparent to every one that this procedure has no place in the surgery of hernia.

**CONGENITAL HERNIA.**—As a rule, it will be observed, on examining the scrotum at birth, that it is out of proportion in volume to the rest of the body; that there is often a peculiar conical contour of the spermatic cord on one side or the other, giving an impression to the eye and touch of a hernia. My own impression is that in the vast majority of male infants the funicular process is not completely closed for varying periods after birth. In those in whom there are no impediments to the emunctories, or who are not taught to walk too early, it will close during the first year; while on the contrary, when an opposite condition prevails, a hernia may present itself. Nature is generally competent to deal with this state of incomplete evolution. Cases are sometimes encountered, however, in which at birth the

hernia is of considerable size, which a truss cannot comfortably control. Opinions are at variance as to the course to pursue with them. My own practice with this class has been to immediately operate and then have the child for a while after wear a truss. I have operated on such a case on the fifteenth day.

**ACQUIRED INGUINAL HERNIA, SO CALLED.**—Most authors are accustomed to divide the causes of hernia into predisposing and active. My experience has led me to regard hernia of every description as being in every instance an infirmity, invariably attributable to predisposing causes, and to those solely and alone; to congenital or ante-natal conditions, the so-called active cause being but an incident, and nothing more, bearing about the same relation to the hernia that a local injury does to the evolution of a carcinomatous growth. On rigid scrutiny, it will be found that, in the vast majority of cases seen in late life, the patient either had hernia in childhood or had a sense of weakness at the seat of trouble; that it was undiscovered, left alone, or treated by the truss and disappeared long before the child came to the age of reason, and hence he has no recollection of it.

Thomas Bryant, in his excellent *Treatise on Surgery*, tells us that nearly all herniæ disappear before the tenth year; but that many of them return again in adult life. It is very probable that, in many of those cured early in life, only the viscera return, the sac remaining; the neck contracting, so that in the event of a severe strain, when much effort is demanded, the orifice suddenly gives way, the viscera sliding downward into the pouch, which awaits their advent. This makes it clear that, while tentative methods serve a most useful purpose in early life, they do not nevertheless effect an enduring cure, as but part of the hernia is returned.

The treatment of acquired, or rather consecutive inguinal hernia, must be governed by circumstances, whether strangulated, threatened with strangulation, of great volume, complicated, etc. It may be said, however, in a general way, that, when they can be comfortably controlled by a truss, no operation is called for in men. In women, the case is somewhat different, for in them we have no spermatic cord to annoy us, and obliteration of the canal of Nuck is comparatively a simple matter.

**LAPAROTOMY HERNIA.**—It is said that from 25 to 30 per cent. of women upon whom laparotomy has been performed suffer later from hernia through the line of incision. These cases constitute by all odds the most unmanageable and melancholy phase of the infirmity. Anatomically, they bear a close resemblance to the immense exomphalocoeles met with in child-bearing women.

Like the latter, the former have no serous invest-

ment, and tend to constantly increase in size. I have seen the greater part of the floating viscera make their way out of the cavity of the abdomen into one of these adventitious pouches, effecting a practical evagination of the intestinal canal.

Operative interference is not, as a rule, admissible in these huge masses, and should not be performed except in the event of impending strangulation. When we do operate, our interference should be limited to the relief of the constriction, leaving the incarcerated mass in its newly-formed abode.

**HERNIA IN THOSE SUFFERING FROM CONSTITUTIONAL DISEASE.**—It may be asked if a patient present himself with a painful, incarcerated inguinal hernia, who is suffering from a constitutional disease, are we justified in advising radical measures of relief? It is well known that many chronic maladies run a very long course, and that many pronounced incurable are often recovered from. This is notoriously the case in renal, hepatic, and pulmonary disorders. With these there is no justification, however, for operative interference, except in the presence of desperate symptoms arising through the hernia. It is a curious fact, that I have never met with a painfully complicated hernia in invalids. Certainly, strangulations are very seldom or never met with among them.

**REGIONAL DIVISION OF HERNIA. COMPLETE INGUINAL HERNIA.**—As the designation indicates, the hernia completely clears the rings and the entire canal.

It would seem that the readjustment of the dislocated viscera, their return by the path that they traversed, and their retention, should not be a difficult undertaking. We may remove the sac, if there is one; approximate the pillars and secure adhesive inflammation. There has, however, been an undue lengthening of the mesenteric ligament; perhaps, there is an excess of intestine; or the peritoneal cavity is intolerant of the returned viscus, when our union of the parts may in a while give way, and down comes the hernia, in a worse position than ever; or as we wall back one, another descends on the other side. This species, the complete inguinal, is the most easily managed of all herniæ. Hence, only in the event of a condition rendering life miserable or endangering it, should we speak of a kelotomy.

**INCOMPLETE INGUINAL HERNIA.**—This form of hernia seldom gives any trouble, as when its sac has contracted solid adhesions it so firmly blocks the canal that nothing can pass it. Moreover a truss is seldom needed for its support. These bubonocœles, however, may contain within them an undescended testicle or a neoplasm; besides, by pressure on the spermatic vessels, they often induce varix of the spermatic veins or hydrocele, impotence or neuralgia

of the testis. Hence, when these sequelæ arise we should not hesitate to operate, though we must not forget that for obvious reasons the permanent results are not always as satisfactory as with other types of hernia.

**DIRECT INGUINAL HERNIA.**—The diagnosis of direct inguinal hernia is a physical impossibility. True, by the aid of the scalpel and a good light it may be recognized, but not by any other means. My conviction is that it is a very rare pathologic entity. In more than a hundred operations I have met with but one case that I was quite sure was of this type. Indeed, in these old inguinal herniæ, in which the canal becomes obliterated and the hernial rent is simply a large hole in the aponeurotic wall, it is not, by any means, even on dissection, that the precise, original type can always be determined. It is quite impossible. Anatomists will tell us that we should readily discriminate one from the other by their coverings, the relations of the vessels, etc. But in old herniæ we are not dealing with normal structures. Happily, it is of little consequence in treatment, whether we are dealing with the direct or indirect, except in operating for strangulation, when we are warned that, in the direct variety, the mass comes down to the inside of the epigastric artery. Anatomic refinements should not concern us, when we proceed to operate, after proper preparations. As an immense hiatus is left between the pillars after the excision of the tendinous envelope of a direct hernia, a permanent cure will seldom follow the radical operation.

**INGUINAL HERNIA IN THE FEMALE.**—Inguinal hernia in the female is as rare as femoral hernia in the male. For anatomic reasons already considered, their frequent, painful complications, their simplicity of cure by surgical operation, render them a peculiarly suitable class for radical cure. Dr. Perry Schoonmaker, of New York, recently exhibited an infant a year old which had had unmanageable inguinal hernia. He opened the sac, removed a prolapsed ovary, thereby effecting a permanent cure. To young women about to be married the operation of the radical cure is in every case to be recommended, for the purpose of removing an unsightly blemish and affording security against the dangers of a subsequent strangulation.

**CRURAL HERNIA IN THE FEMALE AND IN THE MALE.**—When we carefully study the anatomy of crural hernia in the female we can appreciate the many difficulties in the way of rendering permanent a radical cure. Hence it is that it is only with the minority of them that sanguineous methods should be invoked. The great barriers in the way are the blood-trunks of the lower extremity that occupy the femoral arcade. Their periodic enlargement in the child-bearing woman, with the possibility of

dangerous compression through the cicatricial contraction after incision, usually interdicts any attempt in the way of radical cure. Truss-support is preferable in all simple, uncomplicated cases of femoral hernia in the female. We must be guided by the same general principles here as in the crural hernia of the male, though it should be noted that owing to the diversity of function in the female, the prospects of a permanent cure following operation in the male are better than with her.

**UMBILICAL HERNIA, EXOMPHALOCELE, MEDIAN-VENTRAL HERNIA.**—Umbilical and median-ventral herniæ are not very uncommon in child-bearing women. It is unnecessary to remark that the umbilical hernia of nursing infants rarely requires any special treatment.

If in women these herniæ attain a great volume, or if their overlying tunics ulcerate, giving rise to much pain and often to free hemorrhage, they become a very troublesome condition to manage. Fortunately the greater part of those of massive size seldom occasion much inconvenience, except by their weight.

Anatomically, but few of these extrusions can be regarded as genuine exomphaloces, for their escape is but rarely through the unclosed umbilical ring, but rather on either side, above or below it. For this reason it is unusual to find the round ligament of the liver or the urachus prolapsed with them. This type of hernia has no independent sac; hence, as it escapes from the abdomen, the viscera wander in every direction and form intimate adhesions with everything with which they come in contact, so that their vascular supply is ultimately rather from the vessels in the tissues in which they are recently lodged, than through the mesenteric trunks. As, owing to their volume, their state of incarceration and convenient proximity to the solar plexus, the complete removal of these herniæ is a procedure attended with a great mortality, none but those presenting symptoms of strangulation or those that consist of omentum alone, are appropriate for operation. In all cases of sudden intestinal obstruction, the navel should be carefully examined for hernia.

**STRANGULATED HERNIA.**—In the majority of cases, perhaps, strangulated hernia may be reduced by taxis. It would seem, however, that in our time, when it can be radically cured by an operation attended with little or no danger to life, when performed early, every case of this description should be promptly operated on. In those suffering from renal or pulmonary disease, we may, in all cases, substitute cocaine analgesia for pulmonary anesthesia. This I have repeatedly demonstrated with most gratifying results.

**INCARCERATED HERNIA.**—The morbid anatomy of incarcerated hernia furnishes us with an excellent

illustration of the very best work that unaided Nature can perform in the way of protecting an organ against an accident which an imperfection or incompleteness in her own processes has caused.

An incarcerated hernia maintains an independent existence, mainly drawing its sustenance from extraneous parts. Those of minor dimensions and devoid of painful complication should not be disturbed, unless they show a tendency to increase in size, when a truss may be worn. With the larger and more ungovernable variety, with occasional symptoms of obstruction, we must interfere, but only when other measures of relief have failed.

**EPIPOCELE.**—An epiplocele, a purely omental hernia, is that variety which always offers the best prospects of cure by operation; for, by the excision of the adipose tissue the cause of the tumor is removed and intra-abdominal pressure is not increased. I have never seen a relapse after operation on this class, and believe in general, that unless there be some complication, they should always be dealt with by radical measures.

#### **A CASE OF CIRCINATE PAPULO-ERYTHEMATOUS SYPHILIDE WITH PSORIASIS PALMARIS SYPHILITICA.<sup>1</sup>**

BY G. FRANK LYDSTON, M.D.,  
OF CHICAGO,

PROFESSOR OF THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS  
AND SYPHILOLOGY IN THE CHICAGO COLLEGE OF PHYSICIANS  
AND SURGEONS.

NUMEROUS observers have directed attention to a comparatively exceptional variety of papular syphiloderma, occurring in the secondary periods of syphilis, which assumes a form always closely resembling, and frequently precisely identical with, ordinary tinea circinata. Several beautiful examples of this form of eruption have come under my observation, the case shortly to be described being the most typical and clearly outlined of any that I have seen. One of the first cases that I encountered in private practice occurred in a young man who presented himself for treatment for several patches of what appeared to be ordinary ringworm, one of which was located upon the right cheek, and the other upon the opposite side on the neck. Decided pigmentation of these patches made me at once suspect that they were syphilitic, and I therefore made a careful general examination, with the result of discovering general lymphatic engorgement, a characteristic sore-throat and several mucous patches upon the tongue. Upon the roof of the mouth were several distinctly circinate, elevated, reddish patches, one of which presented the arc of a circle representing about one-half the size of a silver

<sup>1</sup> Read in the Section on Dermatology and Syphilography of the American Medical Association, June 9, 1892.



quarter; the other, a perfect circle, of the size of a silver dime. The borders of these circular patches were elevated and of a brighter red color than the normal mucous membrane. The center of the patches was normal or nearly so, the membrane possibly being rather paler than usual. The subsequent history of the case and its behavior under treatment confirmed the original diagnosis of circinate syphilide.

The case at present under consideration is a very interesting one, in that we have two varieties of lesions representing two different stages of syphilis and occurring within a short time after the inception of the disease.

The patient, a woman, twenty-four years of age, presented herself at my clinic at the suggestion of one of my brother-physicians. Four months before coming under my observation, she contracted a chancre. This was followed by a bubo and, in

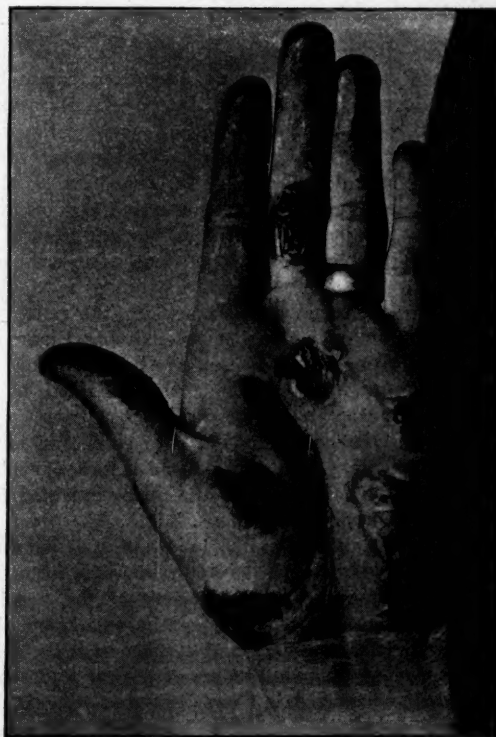
FIG. 1.



about two months, by what, from her description, was evidently a roseola, interspersed with distinct papular syphilodermata. The first generalized eruption had, according to her story, disappeared, with the exception of some of the papules upon the face and upon the palms of the hands. These lesions had not only persisted, but had increased in number and prominence. Shortly after the appearance of the first eruption, several mucous patches in the mouth, and sore-throat developed. The woman had drunk considerably and admitted the cigarette-habit, this circumstance amply explaining the obstinacy of the lesions under treatment and the persistence and severity of the lesions of the mucous membrane of the mouth and throat. There had been, she stated, considerable falling of the hair.

Within three or four weeks prior to appearing at the clinic the woman stated that there had developed a generalized eruption on the face, which she thought was erysipelas, and which she feared would extend all over the face. On examining the patient, I found upon the face a number of distinct, circinate papular syphilodermata of varying size and form. Some of these presented the form of distinct circles; others were more or less crescentic in shape, and several of them were fused together somewhat like a figure 8. Upon the back of the neck, just at the roots of the hair, there were two quite large crescentic-shaped lesions, one of which was nearly as large as half the circumference of a silver dollar.

FIG. 2.



Upon each side of the face, beginning in front of the ear, which it involved, was a syphilide considerably larger than a silver half-dollar, the periphery of which was distinctly raised, the center being perfectly healthy. A peculiar feature of these syphilides was the symmetry and their conformation in a general way to the outline of the ear itself. The elevated portions of all of these lesions were more or less scaly. The nose, upper lip and chin were the seat of erythema, with abrupt edges, slightly, if at all, elevated above the surrounding skin. This erythema underlay a number of the circinate syphilides and extended out upon the cheeks and upwards over the eyebrows for a short distance. This erythema does not, I regret to say, show in the appended illustration. The

mouth and throat were decidedly involved. The soft palate presented a distinctly circinate patch; the fauces were congested, and upon the right side an ulcerating mucous patch was observed. The tongue was the seat of several inflamed mucous patches. There was pronounced syphilitic adenopathy. The palms of the hands presented as fine an example of psoriasis syphilitica as one would care to see. This psoriatic eruption, as will be seen by the appended illustrations, was quite extensive and plainly marked. Under rigorous mercurial treatment, with regulation of the patient's habits, with local applications of mercuric chloride and tincture of benzoïn, the facial eruption was speedily removed; that upon the palms was quite stubborn, persisting for several weeks after the erythema and circinate lesions had practically disappeared.

The circinate papular syphilide has been described as syphiloderma papulosum circinatum by Dr. George H. Fox<sup>1</sup> and Dr. I. E. Atkinson.<sup>2</sup> Jullien<sup>3</sup> describes it as *syphilide en cocarde*. Kaposi<sup>4</sup> also describes *syphilis cutanea*. Bumstead and Taylor<sup>5</sup> have described a flat variety of the papular syphiloderma, which becomes elevated as a distinct ridge at the periphery or as an annular crest, of a dull yellowish color, at the periphery of an ordinary papule. These authorities also state that as papules retrogress, especially in late syphilis, the center of the lesion may be absorbed first, leaving a more or less scaly ring, which is itself firmly absorbed.

Professor Atkinson's paper is illustrated by a beautiful example of the disease, occurring in a young negress, and is one of the clearest and most accurate descriptions of this peculiar form of syphiloderma. To this paper I am chiefly indebted for the description of the lesions.

Atkinson states that the lesions of syphiloderma papulosum circinatum develop essentially from the annular or circinate arrangement of the papulo-tuberculous lesions, so frequently seen upon the skin in late secondary and tertiary syphilis, each group representing a number of distinct and separate lines arranged in a circular form; whereas the circinate papulo-syphiloderma invariably begins in a single lesion (a papule), from which the lesion spreads as the primary papule itself disappears. Dr. Atkinson has had exceptional opportunities for observing negro patients, and states that this peculiar syphilide is especially frequent in them. I have had no opportunities to form an independent opinion upon this subject. Atkinson's description is as follows:

"In its milder and more limited development it affects preferably the face and neck, but when ex-

tensive, no part seems to escape it: back, breast, belly, thighs, arms, hands become invaded. Where the onset is acute and the eruption copious, fever may be present, and the lesions may form with almost the rapidity of those of the eruptive fevers. The lesions appear as bright or dusky-red discs, but little elevated in comparison to their breadth, and varying in size from that of a small pea to a diameter of two centimeters and more. Some remain without further development, or within two or three days begin to desquamate in thin, fine scales, beginning at their peripheries. This desquamation exposes either a dry, smooth, reddened, and flattened elevation, or a moist surface which speedily forms a thin straw-colored or brownish scab, flattened and depressed toward the center. After some days, these scabs fall off and leave pigmented spots. While these changes are going on in some lesions, others exhibit a more curious but less intense activity. While the peripheries of these papules show a scanty, fine desquamation, their central portions gradually sink down to the level of normal skin, and their borders extend centrifugally. A short interval suffices to convert the former papules into unelevated central areas, surrounded by narrow but abrupt borders of elevation, forming continuous rings of infiltration and continually throwing off fine scales. Rarely, the eruption may be limited to a half-dozen of these spots, irregularly scattered over the face, neck and shoulders.

"The color of the central area will now be of a dusky-red color, slowly fading to a duller hue; while the border will be of a darker and more characteristic tint. The central area now continues to grow larger, and by the extension of the slightly elevated border, all resemblance to the original papular lesion is lost. Instead, there is presented an appearance strongly suggestive of severe tinea circinata, which, indeed, it may so closely simulate that, without the previous knowledge of the patient's syphilis, the lesion may, upon superficial examination, be mistaken for ringworm. The elevated border will present a continuous narrow line of a slightly beaded appearance, and will throw off a fine branny desquamation. The central portion of the patch will usually resume its normal surface and thickness, but there will remain the deeper pigmentation; while its size will increase, and its shape will undergo modifications, altering the originally circular outline. In negroes, the ordinary pigmentation of the patches will be replaced by a simple increased intensity in the normal darkness of the skin.

"These patches may reach a diameter equal to that of a half-dollar, and by the confluence of several, great irregularity of extent and outline may be attained. I have never seen any patch larger than the size just mentioned, nor do I know to what extent they may proceed if uninfluenced by treatment. It is likely, however, that spontaneous involution would destroy the patch before a much larger extent could be gained. In many patches a curious recrudescence occurs in their centers, whereby a new papule forms, and immediately proceeds to follow the course of its predecessor in extending periphe-

<sup>1</sup> Photographic Illustrations of Cutaneous Syphilis.

<sup>2</sup> Journal of Cutaneous and Venereal Diseases, Vol. I, No. 1.

<sup>3</sup> Maladies Vénériennes.

<sup>4</sup> Die Haut und der angrenzenden Schleimhaut.

<sup>5</sup> Treatise on Venereal Diseases.

rally, though, it is true, the extending border rarely forms a complete circle, but rather a segment of greater or less size, and not so sharply defined as the first one. Sometimes a third papule may develop within the pigmented inclosed space, and proceed to extend in the same centrifugal manner.

"But small provocation is required to convert these lesions into mucous patches, and when the axillæ or groins are invaded they readily become such. In a young woman, a negress, syphilitic eighteen months, the papular circinate syphiloderma developed within the buccal cavity, where the lesions, immediately becoming mucous patches, adopted the centrifugal extension, the narrow border assuming a pale, opaline aspect. Unlike the usual course of syphilitic cutaneous eruptions, this form, more especially when the rapid and excessive exfoliation of the epidermis lays bare the cells of the Malpighian layer, with the result of forming thin peripheral or general crusts, is often accompanied by a considerable amount of itching, as may be seen from the scratch-marks often present."

Perhaps the most interesting feature of my own case is the association of the circinate syphilide of the face and neck with the papulo-squamous syphilide of the palms of the hands, popularly known as *psoriasis palmaris syphilitica*. Such papulo-erythematous lesions as have been described are characteristic of the secondary period of the disease and may come on early; whereas the palmar syphilide, as seen in this case, usually occurs either in the period of sequelæ or as a late secondary manifestation. The condition illustrated is more marked than is the ordinary papular syphilide of the early stages of the disease, and it is much more obstinate to treatment. While, in the case at present under consideration, the lesions of the palms yielded comparatively easily to specific treatment, they were very much more tardy in disappearing than were the lesions of the face. They left, moreover, an erythematous surface corresponding in area and form with the original lesion, and relapse occurred within two or three months after the infiltration of the skin had completely disappeared, as a consequence of dissipation and negligence on part of the patient. The rule that the circinate syphilide occurs in the early period of syphilis is not without exceptions.

Brauman<sup>1</sup> has called attention to numerous observations that show that in the so-called tertiary period of syphilis there may appear eruptions unlike most tertiary lesions, which are deeply situated in the skin (tuberculo-gumma syphilides), in that they present a superficial character and may closely resemble the syphilides of the secondary period. These superficial eruptions of the tertiary period present themselves in two forms, viz., a super-

ficial papular eruption, which is most exceptional, and an erythematous eruption of a pale-rose color, a little yellowish in parts, forming large circles, or more frequently lesions of an oval or elliptical form. To the latter form of eruption has been given the name *erythème circine tertiaire*. This resembles a late roseola of the circinate form that has been called by Fournier *roséole de retour* and which may appear very late in secondary syphilis. This late roseola seems to establish the pathologic connection between the roseola occurring at the beginning of the secondary period and the peculiar circinate erythema of the so-called tertiary stage of the disease. In the superficial eruption described by Brauman, the lesion almost always presents itself as a simple erythema, without elevation, and there may exist a certain amount of desquamation of the very fine scales which tends to be very stubborn, even if well treated, and yields best to the mixed treatment.

Cases such as my own show that a distinct erythema more or less generalized, *i. e.* extending uniformly over quite an area of the skin, may be associated with distinct lesions of the syphiloderma papulosum circinatum. This case also shows something of a tendency to precocity, incidental, I presume, to the bad personal hygiene of the patient.

### ORIGINAL ADDRESS.

#### THE NECESSITY AND THE BEST METHOD OF REGULATING THE PRACTICE OF MEDICINE.<sup>1</sup>

BY PERRY H. MILLARD, M.D.,

HONORARY MEMBER OF THE AMERICAN ACADEMY OF MEDICINE, DEAN  
AND PROFESSOR OF THE PRINCIPLES OF SURGERY AND MEDICAL  
JURISPRUDENCE, UNIVERSITY OF MINNESOTA.

IN reviewing the question of medical education in the United States the student of history will readily conclude that the facilities afforded pupils of medicine have been painfully inadequate, and that the minimum of requirements in a vast majority of colleges has been well below that standard which affords the public a profession possessing a degree of skill and ability commensurate with the safety of its people. It has been the policy of the authorities controlling these institutions of learning to maintain a standard below recognized safety. In addition to the very low curriculum, the resources of most colleges have been inadequate, and the clinical instruction most deficient. It is but recently that a majority of the colleges in this country have attempted a system of regular laboratory instruction. The causes leading to this dilemma are many; among the most common may be mentioned:

<sup>1</sup> Thèse de Paris, 1891. Annales de Dermatologie et de Syphilographie, November, 1891.

<sup>1</sup> Read at the Seventeenth Annual Session of the American Academy of Medicine, June 6, 1892.



First. The history of pretended medical education in this country covers a period of little more than a century, the people possessing those elements of hurry and restlessness observed in all new communities.

Second. It has not been the policy of this government to liberally support university or higher education—a form of education reaching a high degree of perfection in the British Isles and Continental Europe, and embracing in its scope all special lines of advanced instruction, such as law and medicine.

Third. The people being governed by a republican form of government, the policy has naturally been liberal in respect to freedom of action and choice of avocation; not infrequently this policy has been at a sacrifice of the best interests of a credulous public. In a monarchical or patriarchal form of government it is much easier to restrict or control the action of the people.

Fourth. In consequence of the late civil war, covering a period of four years, a half-million young men found themselves penniless, with limited education and without avocation or profession. Many thousands had secured a superficial knowledge of the art of medicine and surgery from their war experience, and naturally, as a result, a horde of brave but uncultured men turned their attention to the profession of medicine. In consequence, the number of medical colleges in the United States doubled in a short period of time, and the list of matriculates increased at a much greater ratio. Notwithstanding the wonderful increase in population and resources of this country, in a period of a few years the proportion of physicians increased far beyond the legitimate demands of the public.

Fifth. There has been a noticeable absence of that concert of action so necessary between the different schools of instruction to secure uniformity of system in education, or uniformity in the attempts at the elevation of the standard of medical instruction. There has been no restriction to the unlimited multiplication of the number of medical colleges. There has been no attempt to dictate the character of instruction by legislative control. There has been but little attempt to regulate the character of instruction even by the faculties themselves. In consequence, the profession and the public have in the last few years been casting about for a means of remedy to avert a disaster that seemed to imperil the very existence of the noblest of the learned professions. It became apparent to the observing and thinking that the profession of medicine was being degraded in its *personnel*, and but little respected by the people themselves. A condition was fast approaching whereby we were placed in quite as ridiculous a position as is described by

Molière in the fourteenth century. It required but a casual study of the situation at that time to conclude that but one of two methods was available for the correction of the existing evil. The first was that the power to raise the standard of medical education in the United States was vested wholly in the various faculties of medical instruction, and by concerted and business-like action they could readily comply with the most reasonable demands of the profession and the public, and, in doing so, not materially injure their own interests in bringing about the much-needed reform.

The second was that in failure thereof the only alternative was a resort to some restrictive legislation compelling the various colleges to raise their standard of instruction, as applying both to the preliminary entrance examination and to the curriculum of professional duty. A sincere attempt was made by representatives of a few colleges in a period of time from 1876 to 1882, and there resulted from this effort the lamentable history of the American Medical College Association. The disruption of this association was brought about by the treachery of a few representatives of colleges whose policy was governed entirely upon a commercial basis. The disruption of this association at the time was considered a great professional calamity, and the friends of higher medical education soon cast about for some method of bringing order out of chaos.

It was determined that the best means of controlling this evil was through efficient medical legislation. As a result, members of the profession scattered throughout different portions of the country attempted to secure legislative enactments creating State boards of medical examiners. In a majority of instances the attempts were met with defeat at the hands of the different Legislatures, and a majority of the bills that had become laws were painfully defective, as could only be expected in any new form of legislation. The first acts that were recognized as efficient, and at all restrictive, were those of the States of Illinois and West Virginia. Immediately following we have substantially the same act in force in the States of Missouri, Iowa, Minnesota and Dakota.

This form of legislation permitted men to become legal practitioners by submitting a diploma issued by a regularly chartered medical institution. The act further provided that diplomas may be refused or revoked for unprofessional or dishonorable conduct.

The profession soon recognized and became convinced that the so-called Illinois act, if properly enforced, would exercise a wholesome and restraining influence upon medical colleges and rid the public of the infamous practices of the itinerant charlatan. Those of us whose painful duty it was to enforce

the medical law referred to know too well the herculean task we had undertaken. The barriers seemed insurmountable, and our only solace was the realization that our cause was just.

It was my province to act as Secretary of the Minnesota Board for a period of five years, or during the life of the first Practice Act. This act was substantially a copy of the act now in force in the State of Illinois and several other States.

My experience and observation soon convinced me that we had upon our list of recognized colleges a large number of schools whose alumni were not safe practitioners. Any attempt to discipline these institutions was met in a most belligerent spirit, or by an influence well suited to the ward politician or political blackmailer.

I became firmly convinced that the principle of recognizing the diplomas of colleges was not the correct one. I soon agitated the propriety of the amendment or entire repeal of the Minnesota act, or the securing of a new act calling for a personal examination of each and every person wishing to practise medicine in the Commonwealth. The propriety of determining the fitness of men to practise medicine by means of a personal examination was recognized and acknowledged to be the proper method by the State Board of Minnesota. At a conference of Boards of Medical Examiners held in Chicago in 1885, I urged the propriety of concerted action in an attempt to secure uniformity of legislation by an act in the several States calling for an examination of each candidate for a license, and providing, as in the Illinois act, the privilege of refusing or revoking licenses for unprofessional or dishonorable conduct. The consensus of opinion at this conference plainly indicated that it would be a step in advance if we possessed legislation granting the privilege of examining all students wishing to commence the practice of medicine. The majority of those present, however, were of the opinion that the opposition would be so pronounced as to insure defeat. The members of the Minnesota Board, however, concluded to ask the Legislature for further legislation, and I was instructed to draft a bill for submission at the forthcoming session. The bill was the same as the one now in force in Minnesota and several other States. It became operative with us July 1, 1887. It established a minimum of time to be spent at medical lectures before a person would be permitted to apply for an examination to determine his fitness to practise medicine. It further provided for an examination of all persons wishing to commence the practice of medicine in any of its branches in the State. It likewise granted the privilege to refuse or revoke licenses for unprofessional or dishonorable conduct.

It was the first draft of a bill to become a law that

called for a minimum of time to be spent at lectures before commencing the practice of medicine. This feature of the bill has proved eminently satisfactory in Minnesota, and has been copied in the statutes of several other States. Its effect has been most salutary upon several of the medical colleges of this country, and, as a result thereof, nearly every institution of this country whose term of lectures was less than six months has extended its duration to comply with the statutory requirements of the several States. At the present time, persons wishing to commence the practice of medicine in the following named States are required to prove their fitness therefor by undergoing an examination: Minnesota, North Dakota, Montana, Washington, North Carolina, Alabama, Florida, Virginia, New Jersey, New York, Nebraska, Maryland, and Utah.

Nearly all of this legislation has been accomplished in the period of the last five years, and the present indications are that in the near future a majority of the States of the Union will secure correspondingly adequate legislation. The agitation of this reform has met with quite bitter opposition from some sources—the principal opposition, however, coming from the authorities of the various medical colleges. This opposition has been most futile, as the situation of the profession in this country was readily recognized by the legislator, and the further fact that no rational argument could be rendered against the constitutionality or propriety of some form of restrictive legislation.

The necessity of restricting the practice of medicine has been recognized by all nations of civilized people from time immemorial. Every European country possesses most stringent Practice Acts, and has for centuries. The so-called police power has likewise been recognized for centuries.

Traces of forensic and State medicine are as old as institutions of civil society. The Jews recognized mortal wounds. The Egyptians provided that no woman pregnant with child should suffer afflictive punishment. The Romans, even from the period of Numa, grounded many of their laws upon the authority of physicians. The Carolina Code, under Charles V., was established in 1532. The first traces of the exercise of police power as applied to the practice of medicine are found in Italy in 1237. Here a license to practice was granted by the University of Salino after a study of philosophy for a period of three years and of medicine for a period of five years. This license was only obtainable after a satisfactory examination. Shortly after this date licenses were likewise granted in England.

The first degrees in medicine were presumably granted in 1384. The first efficient law regulating the practice of medicine in England was enacted in 1511. The progress of medicine during the seven-

teenth century has been ably described by Macaulay in Vol. I, page 310 of his History.

"Medicine," he says, "which in France was still in abject bondage and afforded for Molière an inexhaustible subject of just ridicule, had in England become an experimental and progressive science, and every day had made some new advance in defiance of Hippocrates and Galen. The attention of speculative men had for the first time been directed to the subject of sanitary police." Investigation reveals the fact that efficient regulation of medical practice and higher medical education progressed, hand in hand, from the period of time mentioned by Macaulay down to the present time. The courts have universally affirmed the legality or constitutionality of the various laws regulating the practice of medicine in the different countries of Europe. The United States Supreme Court has recently rendered a decision affirming the constitutionality and the general features of Medical Practice Acts. A large number of the Supreme Courts of the different States have likewise affirmed the constitutionality of the different Medical Practice Acts. In a few instances, in the lower courts, where decisions have emasculated the power of State Boards of Medical Examiners, it has been due to the faulty wording of the act itself, rather than to any unconstitutional features that may be found in this form of legislation.

In a paper read by me at the session of the American Medical Association in 1888 I advocated a greater uniformity of medical legislation by the various States. The discussion led to the appointing of a committee with instructions to formulate the general features of a Practice Act that would be suitable for adoption in any of the different States of the Union. As chairman of that committee, at the next session of the Association I submitted the draft of a bill possessing the essential features of the act now in force in the State of Minnesota. The report of the committee was unanimously accepted and adopted, together with resolutions urging upon the profession the propriety of at once attempting the establishment of efficient Medical Practice Acts in the different States of the Union. I am gratified to observe that in nearly all instances in which Medical Practice Acts have recently been obtained the essential features of the Minnesota act have been adopted.

The question of medical legislation should be considered from two standpoints, to-wit: That of the regulation of medical practice, and that of the regulation of medical education. In the performance of the first function, boards should consider that it is simply their duty to protect the public from the imposition of charlatans and the grave errors certain to arise from the practices of unedu-

cated men. The duties of the State Licensing Board end here. If the act is so worded as to likewise regulate medical education in the Commonwealth, it is eminently proper that a minimum of requirements should be established, and the Boards authorized to exercise a general supervision pertaining to the character of instruction in all colleges whose alumni become applicants for the privilege of practising in the State. I sincerely question the propriety of one Board performing both of these duties. Basing my opinion upon extensive observation and experience, I believe that the best interests of the public will be subserved by assigning the duties of the State licensing power to the various State Boards of Health.

The medical licensing power is purely a police power, and were these duties assigned to Boards of Health it would assure greater prestige and influence in the community. I believe that the regulation of all forms of education should be vested in a central power, consisting of a single board to be known as a State Bureau of Education, with power to regulate all educational institutions granting degrees, together with the power of granting and revoking charters; particularly should this apply to all institutions wishing to afford the community any of the various forms of higher or special education. Under existing circumstances, in a vast majority of the States of this country, three or more persons can form a corporation, and become incorporated by application to the Secretary of State, and grant degrees *ad libitum*. The *personnel* of these Boards is immaterial, providing the parties be reputable and intelligent practitioners of medicine. It is my opinion that the mixed boards, such as exist in Minnesota, Illinois, Iowa, Montana, Missouri, North Dakota, and several other States of the Union, render better service to the public than the few separate boards that have been created in compliance with the demands of the several so-called schools of practice. In the States possessing mixed boards that conscientiously perform the duties of a public servant I have yet to hear of any clashing or jealousy among the members. I believe the best interests of the people will be subserved by the maintenance of a clause in each of these acts providing for the refusal or revocation of a license to practise, in case of unprofessional or dishonorable conduct. I question the propriety, however, of boards exercising this power except in most flagrant cases.

If John Smith is disposed to occupy the first page of a newspaper in calling the attention of the public to the fact that he confines his attention entirely to diseases of the genito-urinary organs, I believe this indiscretion alone should not cost him the right to practise medicine; upon the contrary, should he



claim in the public press that he can cure what is recognized by the profession as an incurable disease, such as tuberculosis or carcinoma, it is the duty of the board to step in between the credulous public and the dishonorable practitioner and deprive the impostor of his professional rights. It is, likewise, the duty of the board to refuse or revoke the license for persistent and chronic inebriety, criminal abortion and repeated gross immoralities.

As honorable and intelligent physicians, we recognize the great sin of advertising in any manner. In view, however, of the outspoken sentiment in favor of any restriction in this direction, I presume it is better to allow the fool his course, at least until he reaches that point in his career that his practices imperil the safety of the public.

I am pleased to submit some statistics of the work accomplished by several State Boards of Medical Examiners. My statistics are from States where the law requires a personal examination of the applicant's fitness to practise. These examinations include all of the essential branches of the field of medicine. They afford a most convincing argument in behalf of efficient medical legislation.

I trust I may not be considered presumptuous if I assert that in the administration of their delicate and untried trusts it has been the policy of these boards to be somewhat lenient, and to license many whom they knew possessed inadequate instruction. A part of their duties has been to educate both the profession and the public to the propriety of this form of legislation. Notwithstanding this policy, we are informed that 24.8 per cent. of all applicants for a license to practise have been rejected as unsafe practitioners.

My statistics are based upon returns from the following-named States: Alabama, North Dakota, North Carolina, Virginia and Minnesota.

The total number examined was 1950.

The total number classified was 1746.

The total number unclassified was 204. The unclassified represents foreign and extinct colleges and undergraduates.

The total percentage licensed was 75.2 per cent.

Of 183 graduates of colleges requiring three courses of instruction for the degree of M.D., 179 passed examinations; 4 were rejected: making the percentage passed 97.2.

Of 435 graduates of colleges that formerly issued degrees after attendance upon two courses of lectures, 343 passed examinations; 92 were rejected. The percentage passed was 78.8.

The foregoing data are compiled from the records of the different Boards of Examiners. The comparison indicates the results of the examinations of graduates of the graded three-course institutions

and those that previously to 1890 conferred degrees after attendance upon two courses of instruction. Colleges were selected that were indicated by the report of the Illinois Board of Health as matriculating respectively the greatest number of students in the year 1890.

The foregoing statistics indicate that graduates of the three-course graded colleges rarely fail before the various State Boards of Medical Examiners.

The practice of medicine is fairly well regulated at the present time in about one-half of the States. The present indications are that the spirit of reform will extend, and in the near future include all of the States. The friends of medical legislation include the masses of the profession and the representatives of the better colleges of the country. Its enemies principally include the representatives of those colleges governed by commercial interests and charlatans.

Up to the present time the number of medical colleges has increased out of all proportion to the increase of population. Of 130 schools, less than a dozen are endowed. The number of practitioners is greatly in excess of the legitimate demands of the people. We are reliably informed that in the decade ending with the year 1890 the colleges of the United States matriculated 115,355 students, and graduated 39,996. This is an average of 4000 yearly—in my opinion, more than twice as many as the requirements of the people demand.

As a final argument in behalf of adequate medical legislation, I beg to submit the following statistics, based upon the proportion of physicians to the inhabitants in a few of the European countries:

#### RATIO OF PHYSICIANS TO POPULATION.

Sweden, . . . . .	1 to 7000 population.
Italy, . . . . .	1 to 3500 "
Germany, . . . . .	1 to 3000 "
Austria-Hungary, . . . . .	1 to 2400 "
France, . . . . .	1 to 2000 "
United States, . . . . .	1 to 600 "

The foregoing figures explain themselves, and comment seems unnecessary.

Basing my opinion upon observation of the workings of the Minnesota law in its first five years' experience, I am fully satisfied that efficient legislation will reduce the number of physicians to a number commensurate with the needs of the people, and that the people will be better and more honestly served. Minnesota has a smaller number of physicians to the inhabitants than any State of the Union; St. Paul a smaller number to the inhabitants than any of the larger cities of the United States. The result in this State is wholly due to efficient legislation, and the effect of the act has

been to enhance the welfare of both the profession and the public.

Briefly, my conclusions upon the question of medical legislation can be summarized as follows:

1. The regulation of medical practice and medical education is constitutional, and the demands therefor imperative. Secondly, a distinct line of demarcation should exist between the so-called licensing power and the regulation of medical education. Thirdly, the licensing power should include in every State the following essentials:

*a.* The evidence of the candidate's fitness to practise medicine should be established by his undergoing an examination upon all the important branches of medicine.

*b.* There is absolutely no necessity for a series of questions that in the least conflict with the views of the various so-called schools of practice.

*c.* Power should be granted to revoke or refuse license for unprofessional or dishonorable conduct.

*d.* The exercise of this power upon the part of the different boards should only be resorted to in palpably flagrant cases.

*e.* The public interests will be best subserved by so-called mixed boards.

*f.* The power vested is best executed by the State Sanitary Police, or rather the different State Boards of Health.

*g.* The duties of the act belong to that department of law known as the State Police Power; the appointing power should be vested in the Governor.

*h.* Appointees should be men of recognized ability and standing in the various communities.

4. I am satisfied that the influences of efficient medical legislation will have a most salutary effect upon the character of instruction afforded students of medicine in this country, and that the faculties of the various colleges in the future will not be so notoriously lax in regard to the conferring of degrees.

5. It is likewise essential that medical education should be restricted or regulated in the various States, and, in my opinion, there should be created a central authority, consisting of a Bureau of Education; this bureau should have power to refuse or revoke charters, and should exercise a restrictive influence as to the character of education conferred, and the authority should apply particularly to special schools of education, such as law and medicine.

6. This bureau should establish regulations pertaining to the granting of charters to medical colleges. The charters should not be granted unless all necessary laboratories are thoroughly equipped; unless facilities for clinical instruction are unquestioned, and unless applicants for charters should satisfy the bureau of their undoubted ability to

support the institution financially, without being dependent upon the fees of its students for its sustenance.

In a recent report, the Commissioner of Education of the United States forcibly directs the attention of the public to the inadequate equipment of the medical colleges of this country. We are informed in this report that there are \$2,672,000 invested in grounds, buildings, and apparatus for the medical schools of the United States. The amount of productive funds for these schools is only \$266,190, and the annual income from investment only \$22,000. He states: "When we examine the facilities and demands of this country, with those of the British Isles and Continental Europe, we necessarily conclude that the foreign schools exact too much or that our system is painfully crude and lax." The Commissioner of Education further remarks: "That, considering the enormous amount of knowledge that has been accumulated respecting the proper treatment of disease, its prevention, and its nature, the impression becomes irresistible that we have been influenced by our national impatience and haste in this matter, as well as in many others, and that we have allowed the student to dictate the length of time of study instead of obliging him to spend enough time to receive it properly and retain it securely."

Applied to the profession of medicine, there is but one inference to draw from the foregoing data: we can only conclude that the facilities for securing a thorough medical education in this country are indeed inadequate. The present high character of the masses of the profession in the United States is not so much due to the facilities of college training, as to the individual character of the profession. The vast majority of the profession of this country now in practice received their degrees of M.D. after attendance upon but two courses of medical instruction, of not more than twenty weeks' duration each; many look back upon their medical college career as an unimportant epoch, and think of those days as a work of confusion. The instruction afforded by this system of medical education was hurried, superficial and most inadequate to our wants, the course consisting rather in calling the attention of the student to the art of medicine, instead of teaching him the sound principles upon which is governed the great field of active practice. This system of instruction was a delusion. Our experience confirms us in the opinion that if the student does not become grounded in the essential principles of medicine in his college days, he never will. Except in a few rare instances, a physician does not acquire histology, anatomy, and physiology, and chemistry after receiving his degree of M.D. The few that have become proficient in

later professional life have been placed at a very great disadvantage.

We are pleased to observe at this time a disposition to foster and support a higher system of education among the masses. The present disposition in the various States of the Union is toward a complete divorcement of the public-school system from church or other influences, and affording to the public a system of education fully equal in quality and as extensive in scope as can be obtained in any civilized country. This disposition is particularly noticeable in several of our Western States. We see here millions of dollars spent annually in the support of university education, and the facilities for instruction in several of these institutions are quite unsurpassed. We already have our University of Michigan, with its 2800 students; the University of Minnesota, with its 1400 students, and, closely following, those of Wisconsin, Iowa, Texas, and Nebraska.

The growing tendency of the State to foster higher education carries with it much encouragement for the profession of Medicine. It means a medical department in connection with many of these institutions that are independent and directly supported by the State. I am pleased to see a disposition in many of our colleges to connect themselves with universities. A medical college connected with a university has few objections and many advantages. As we pass the fourth centennial epoch in our history, we can look forward with most sanguine expectations in all that pertains to medicine. We invite our critics to forget the past and only look to the present and future. Present appearances plainly indicate that we are on the eve of a new departure in medical education in this country. The older system of medical education is a thing of the past; let us forget it quickly and look with sanguine expectations to the future.

In conclusion, I again appeal to the profession of this country, and particularly to you, gentlemen—the most intelligent representatives of the profession of medicine in America—to renew your zeal and continue in your efforts until the battle for higher medical education in America is actually won and the good name of the profession of medicine rescued from disgrace.

## CLINICAL MEMORANDA.

### RÖTHELN.

By S. P. HARRINGTON, M.D.,  
OF FARLEY, MO.

I AM prompted by reading the articles regarding scarlatina and Rötheln that have appeared in THE NEWS to present a report of twenty cases of Rötheln, some of which if isolated would have been hard to differentiate if we did not take into consideration and weigh carefully

all the evidence presented by the various cases before forming our conclusions. Care in observation will in a great measure obviate the confusion that now exists in naming the two diseases. Those that have been in the habit of calling every sore-throat, with or without an eruption, scarlet fever, will be more careful, and be contented with the facts presented by each epidemic.

CASE I.—May C., ten years old, came to my office about February 1st, complaining of sore-throat. I found the soft palate and uvula presenting a bright-red appearance, which extended to the posterior pharynx to a less degree. The tongue was covered with a whitish coat. There was an eruption on the face, hands, and trunk, presenting the appearance of a mild erythema, with a few well-defined points of a brighter red. The temperature and pulse were normal. I sprayed the girl's throat twice. She received no other treatment, and did not consider herself sick.

CASES II and III appeared at about the same time as Case I, but in another family. I likewise heard of several other cases appearing in different parts of the county simultaneously. My cases gave a history of chill, followed by mild fever, sore-throat, with an eruption that was decidedly red. Both were out in a few days.

CASES IV and V, one and three years old, respectively, had fever that ranged from 102.5° to 103° F.; the pulse was from 130 to 140. They had sore-throat, with induration and swelling of the post-auricular and post-cervical glands; the tonsils were considerably swollen. In one case, acute unilateral inflammation and in the other acute bilateral inflammation of the middle ear developed, terminating in suppuration. Neither presented an eruption.

CASES VI and VII occurred in the same family as Cases IV and V, in children five and ten years old, respectively. Both had sore-throat, with induration and swelling of the cervical glands, producing slight stiffness of the neck. Other symptoms were absent.

CASE VIII.—Miss H., fifteen years old, was taken suddenly with a chill, followed by fever. The temperature rose to 103° F.; the pulse to 120. The throat was sore, especially the soft palate and the uvula. The tongue was covered with a whitish coat, which became brown and dry. Thirst was excessive. The post-auricular and post-cervical glands were slightly indurated and swollen, producing slight stiffness of the neck. The eruption first appeared upon the face, and rapidly spread to the body and extremities. It lasted for three days, when it began to fade, and was followed by desquamation in fine scales.

CASE IX.—Mrs. H., the mother of Case VIII, forty years old, on the fourteenth day after the daughter became ill, was seized with a chill, followed by fever, the temperature rising to 108° F., the pulse to 120. The throat was sore. The post-auricular and post-cervical glands were indurated and swollen, with slight stiffness of the neck. Otitis media, with suppuration, developed. The eruption was slight, but general in distribution, and was followed by desquamation in fine scales. The patient gave a history of scarlet fever when a girl.

CASE X.—My own baby, two years old, was seized with vomiting. The temperature and pulse remained normal, except when vomiting took place, when the pulse



would become accelerated. In the first twelve hours, the vomiting was almost uncontrollable, and at one time, after an hour's quiet sleep, she awoke and vomited blood three or four times. The throat was sore, but there was no eruption or glandular involvement. The cheeks would flush as though she had fever, but the temperature was always found to be normal. The hematemeses was controlled by one dose of liquor ferri subsulphatis; the vomiting by cocaine. Ice-cream was the only article of diet allowed for two days. A stomachic tonic of infusion of calumba was also given. Recovery was rapid and perfect. There is a light-brown discoloration left over the right mastoid process, about the size of a quarter. If there was any eruption at this point it escaped our notice.

CASE XI.—Mrs. I., fourteen days after exposure, without any warning was seized with a chill, followed by fever, the temperature reaching 103° F.; the pulse from 120 to 125. There was sore-throat, with induration and slight swelling of the cervical glands. The neck was slightly stiff. Vomiting was severe. The eruption was general and of a bright-red color. Desquamation took place in fine scales. The patient gave a history of scarlet fever when a girl.

CASES XII and XIII, two and four years old, respectively, were without warning seized with chill, followed by fever, the temperature ranging from 102.5° to 103° F.; the pulse from 120 to 130. There was sore-throat. A bright-red eruption appeared on the face and rapidly spread to the body and extremities. The eyes were red and watery. The voice was husky. The symptoms of coryza were marked, as was the case in varying degrees in all of my cases. The eruption lasted from three to four days, fading gradually. Desquamation took place in fine scales.

CASE XIV, the mother of Cases XII and XIII, fourteen days after the children became ill, was seized, without warning, with a chill, followed by fever, the temperature reaching 103° F.; the pulse 120. There was sore-throat. The eruption was general, and lasted three or four days, disappearing with very little desquamation.

CASE XV, the father of Cases XII and XIII, and the husband of Case XIV, became ill at the same time as did his wife. He had severe aching in the limbs and sore-throat. No other symptoms appeared. This aching of the limbs was a prominent symptom in all of the cases that were old enough to describe it.

CASE XVI.—Mrs. W., fifty years old, was seized with a chill, followed by elevation of temperature and acceleration of pulse, severe aching in the limbs, stiffness of the neck and soreness of throat, with induration and swelling of the post-cervical glands, which suppurated.

CASE XVII.—G. F., ten years old, became ill at about the same time and in about the same manner as Case I. The children were together every day, and the parents stated that both presented the same symptoms. No treatment was employed.

CASE XVIII.—M. F., a sister of Case of XVII, seven years old, became ill between two and three weeks after her sister. I did not see her, but her history, as obtained from her father, is that she was well at supper-time, but during the night felt chills and vomited once or twice. She appeared feverish. The eruption was profuse; it appeared on the face first, but in a short time the entire

body and extremities had become involved. There was sore-throat. The treatment was mild.

CASE XIX.—A. F., a brother of Cases XVII and XVIII, five years old, twenty-one days after his sister became ill, presented symptoms similar to hers. The attack set in at night; on the following evening he had a light spasm. I found the boy with a temperature of 103.5° F., and pulse of from 130 to 140. There was twitching of the muscles, with mild delirium and frequent vomiting. On the following morning he was resting better; the temperature was 101.5°; the pulse from 115 to 120. The throat was sore; the tongue dry and brown; the nares almost occluded. The parents informed me that he had been troubled with catarrh of the nose for a month or so. The eruption had now become general, leaving no part exempt. The tonsils were swollen considerably; the post-auricular and post-cervical glands were indurated and swollen. The boy had played out of doors all or most of the day before he was taken ill. It was noticed that he sat upon the ground, which was wet. I saw him on the next morning, much improved; the temperature was 99° F.; the pulse 108; the swelling of the glands was apparently arrested. On the next morning he was still improving, and promised to make a speedy recovery; but in the night he became worse. I found him very restless; the temperature was 101° F.; the pulse 120; the glands and connective tissue of the neck were beginning to swell again, although the breathing was not much interfered with. After I had gone, the parents became alarmed and thought consultation advisable. When I returned at one o'clock to learn the hour of consultation, I found the boy with a temperature of 103° F. and the pulse from 130 to 140. In an hour I was sent for in haste, the messenger stating that the boy was choking. When I arrived I found him *in articulo mortis*. Cyanosis was marked and the breathing was very difficult. Diffused bronchial râles were heard over both lungs. I immediately performed tracheotomy, whereupon a quantity of mucus of a brownish color escaped through the opening. I inserted the tube and considerable more fluid ran out. The boy breathed full and easily for about one-half an hour, when death closed the scene. I believed that bronchitis had set in a few hours before, and was the immediate cause of death.

CASE XX.—B. F., a sister of Case XIX, two years old, became ill a day after her brother, both evidently having taken the disease from their sister, Case XVIII. The eruption and fever were the first signs. The eruption was marked, presenting a bright-red appearance. The throat was sore; the post-cervical glands were indurated and swollen; these broke down after being poulticed. The tongue was dry and brown. Sixteen days after the onset of the attack, the parents gave the girl two doses of quinine, the amount of which was probably three or four grains in all. This served to cause an attack of hives. Otherwise she has done well.

The point to which I wish to call attention is the epidemic character of the affection. It seemed that almost every one was under its influence more or less. Its contagious character was manifested in its transmission from one member of a family to the others, while in some cases it was carried from one family to another by a susceptible individual. The cases were also mostly mild,

only one proving fatal, and that evidently from a complication. Two of the adults had previously had scarlet fever. Nearly all presented more or less induration and swelling of the post-auricular and post-cervical glands. None of the usual complications and sequelæ of scarlet fever were observed. The strawberry tongue was not encountered. My plan of treatment has been entirely symptomatic. I gave sodium salicylate and antifebrin in equal parts to control the fever, the dose being regulated to suit the individual case. Due attention was given to the secretions. An antiseptic throat-wash was used five or six times or oftener a day, according to the urgency of the case. Cocaine and bismuth subnitrate were given for vomiting when indicated. As a tonic I gave elixir of iron, quinine, and strychnine. For nourishment I relied on milk, soft-boiled eggs, ice-cream and meat-broth.

#### A CASE OF ECLAMPSIA; FOLLOWED BY FACIAL ERYSIPELAS; RECOVERY.

BY ALBERT PICK, M.D.,  
OF MANCHESTER, N. H.

MRS. P., a German, thirty-two years old, was a weak, delicately built deutipara. She had had typhoid fever when ten years old, which was followed by almost complete alopecia. Otherwise she had always been healthy. Her first child was born eight years ago at full term, after a tedious but normal labor. A few weeks previously to the present confinement, at full term, she suffered from vertigo and headache.

I was called to see the woman on March 22d at 2 P.M. Just as I entered the sick-room she had a severe convulsion, lasting for about two minutes. Another followed in twenty minutes. There was stertorous breathing and the pupils were perfectly reactionless. Her attendants stated that she had felt some labor pains on the previous night. She had been unconscious since 6 A.M.; the convulsions beginning at that time. The physician who had attended her in her former confinement was sent for, and, without making a vaginal or other examination assured the friends that the condition was not serious, and that the patient would soon be "all right." At 9 A.M., when he came again, the patient had a severe convulsion.

At 2 P.M. I was sent for; the patient now having convulsions every half-hour. I immediately made a vaginal examination and found the os externum very rigid, with no signs of labor. As the patient was unconscious and could not swallow, I administered one dram each of chloral and sodium bromide by the rectum, and then put her into a hot pack. While I was carrying out the procedures the patient had two convulsions. After I had put the patient into the hot pack I went for my colleague, Dr. J. L. Robinson, to assist me in the induction of labor and in the further management of the case. I left some pearls of amyl nitrite (each containing four minims), with instructions that one should be crushed in a handkerchief, and the directions that the patient be made to inhale the vapor in case the necessity arose.

On my return with Dr. Robinson, I learned that the patient had been breathing more quietly, had perspired freely, and that she had not had any more convulsions.

We found, on vaginal examination, some dilatation of

the os, which was yet rigid, as was also the perineum. Methodical dilatation was at once instituted, and, after the cervix was sufficiently dilated, the membranes were ruptured. Labor-pains now appeared more frequently and were of better quality and more lasting.

L. O. A. was diagnosed. At 6 P.M. the head was born; expulsion of the trunk quickly followed. The cord was wound several times around the neck of the child. The latter showed signs of impeded circulation, and after a few short and feeble efforts of respiration it seemed to give up. Considerable time was spent in efforts to restore life, which finally were crowned by success.

The placenta came away at the expiration of half an hour. After the patient had been cleaned and dressed, she fell into a profound sleep, consciousness not being restored until the next morning. The chloral and sodium bromide were continued during the night and following day—in smaller doses, of course. The woman complained of pain in the muscles of the face for several days; especially painful were the muscles attached to the lower jaw.

Otherwise convalescence was uneventful until the fourth day post-partum, when, coincidently with a rise in temperature, facial erysipelas developed. The face was much reddened, considerably swollen, and very painful. The temperature rose to 104° F. The patient was given gr. iij of quinine and gr.  $\frac{1}{10}$  of extract of belladonna four times daily; locally, an oxide of zinc and bismuth subnitrate salve was used. As the bowels were somewhat sluggish, fluid extract of cascara sagrada was added to the treatment. The diet was liquid, but nutritious. The patient improved rapidly, and a week later was out of bed and made an uninterrupted and uneventful recovery.

Rapid emptying of the uterus was the main measure relied upon in the management of this case of eclampsia, and the result was satisfactory and speedy to both patient and accoucheur.

#### MEDICAL PROGRESS.

##### Death after the Intra-uterine Injection of Ferric Chloride.

—PLETZER (*Centralbl. für Gynäkologie*, 1892, No. 18, p. 337) reports the case of a woman, thirty-two years old, that presented herself with retroversion of the uterus and chronic endometritis. There was a history of syphilis, of repeated miscarriage, and of cerebral hemiplegia. The cavity of the uterus was curetted and tincture of iodine was applied. A Hodgé pessary was employed to keep the organ in position. A small myoma was found upon the posterior uterine wall. After four days of rest in bed, the uterus was irrigated with a 2 per cent. solution of carbolic acid, and tincture of iodine was applied. The next menstrual period occurred at the expected time; the flow was full and lasted a week. Subsequently the treatment was resumed; the injections were made at intervals of two days. Considerable hemorrhage ensuing on one occasion, a half-dram of the official solution of ferric chloride was, by means of a syringe with lateral fenestra, slowly injected into the disinfected uterus and permitted to flow out, the uterus afterward being irrigated with a 2 per cent. solution of carbolic

acid. The patient was put to bed. She complained of intense abdominal pain; the skin became livid, the pulse small and frequent, the breathing stertorous. Despite the energetic application of remedial measures, the woman died two and a quarter hours after the injection had been given. At the autopsy an old hemorrhagic area was found in the left optic thalamus. The right heart contained numerous thrombi situated among the trabeculae. The pulmonary veins and their branches contained a few loose thrombi. From the right internal iliac vein, at the point of bifurcation of the common iliac, protruded a thrombus more than an inch long. The posterior surface of the interior of the uterus presented a longitudinal defect about a half-inch long, resembling a tear of the mucous and muscular coats, perhaps a fifth of an inch deep. At the bottom of this defect were visible numerous small veins filled with dry, black, firm clots. One of these veins could be traced as a thick cord through the pelvic connective tissue to the common iliac vein. The blood throughout the body was fluid.

**Cranial Surgery.**—At a meeting of the Philadelphia County Medical Society MORRISON reported three interesting operations in cranial surgery. One case was that of a forceps-delivered boy, two years and seven months old, with defective mental development, in which linear craniotomy was performed. Improvement soon followed upon operation, and was persistent thirteen months later. The second case was one of epilepsy in a boy, eight years old, in which the convulsive movements were most decided upon the right side of the body. The skull was trephined above and in front of the point of intersection of the temporal ridge and the coronal suture on the left, but nothing abnormal was found. Slight temporary improvement followed upon the operation, but the paroxysms soon recurred with their previous frequency and severity. In the third case, a subdural abscess formed as the result of a blow upon the head, with fracture of the internal plate of the bone. A wound of the scalp and bone had been inflicted in front of and parallel with the left Rolandic line. Consciousness had not been lost. There was some nausea and vomiting. Four days after the accident, pain in the left temple set in. On the eighth day, loss of power was noted in the right arm and leg, which on the ninth day had progressed to complete paralysis, including likewise the right side of the face. The skull was trephined in front of the original wound. The internal plate of bone was found separated from the external plate for half an inch on each side of the opening. An extra-dural clot was present. The removal of a fragment of bone that had penetrated the dura permitted the escape of an ounce of pus. The dural opening was enlarged and the abscess-cavity irrigated. Drainage was provided for. The patient made a satisfactory and speedy recovery.

**Anthrax.**—From a careful study WISSOKOWICZ (*Fortschritte der Med.*, 1892, Nos. 11 and 12) has found that cases of cutaneous anthrax occur in man in which, in the course of the general disease, the anthrax-bacilli disappear from the primary focus. In all cases at not too early a stage the death of the bacilli may be observed at the periphery of the diseased area, without the participation of leukocytes. The dissemination of the

anthrax-bacilli from the primary subcutaneous focus takes place in the rabbit (and probably likewise in man) exclusively by the lymph-stream. The bacilli that find their way into the blood at the conclusion of the illness are not excreted by the liver or the spleen, in contrast with what occurs when bacilli are experimentally injected into the blood of a healthy animal. The elimination of virulent anthrax-bacilli also takes place through the capillary endothelium of various organs, without the participation of the leukocytes. Cells of organs unpoisoned by anthrax-toxines possess the capability of taking up living anthrax-bacilli; poisoned cells lose this property. The elimination of the bacteria from the blood in the organs and their taking up by the fixed cells of the connective tissue have but a secondary significance in the battle of the organism with the virus. The most important rôle belongs to the antiseptic (bactericidal) property of the tissue-fluids (the natural cell-products), and next, to the blood. On preserving, in the cold, the organs of animals dead of anthrax the number of bacilli rapidly diminishes in the course of twenty-four hours.

**The Surgery of the Gall-bladder.**—CZERNY (*Deutsche medicin. Wochenschr.*, 1892, No. 23, p. 516) thus summarizes his views on the surgery of the gall-bladder: Gall-stones require operation when they occasion repeated or persistent distress. Empyema of the gall-bladder demands operation; hydrops, if it occasions distress. The typical operation for stone in the bladder consists in incision, evacuation, and suture, the abdominal wound being drained for a short time. If the cystic duct be not patulous, if the gall-bladder is inflamed, if the contents have undergone marked change, a temporary biliary fistula should be established. The gall-bladder should be extirpated only in case of intense inflammatory conditions, or of carcinoma. If the common duct be occluded operation is absolutely indicated as long as the strength of the patient will allow. If the obstruction (stone or flexion) be not remediable, the best procedure is to establish a communication between the gall-bladder and the duodenum. The best mode of procedure is to make a hook-shaped incision, the vertical arm of which lies in the linea alba and the horizontal arm extends toward the right, just below the level of the umbilicus. Operation for gall-stones is attended with less danger than operation for vesical calculi.

**Immunity to Cholera.**—VINCENZI (*Deutsche medicin. Wochenschr.*, 1892, No. 18, p. 394) has found that the subcutaneous intra-pleural or intra-peritoneal injection of a drop of a bouillon-culture of cholera-bacilli causes in guinea-pigs extensive edema, followed by death in from twenty to thirty hours. The blood and the intestine of such animals contain living cholera-germs. Infection takes place by the intestinal tract only if the bowel be irritated, mechanically or chemically; alkalization of the stomach is unnecessary. The blood-serum of normal guinea-pigs is incapable of destroying the virulent cholera-bacilli when present. Animals treated with a filtrate of a bouillon-culture of cholera-bacilli are protected against infection. In immune animals the subcutaneous injection is followed by marked phagocytosis. The blood-serum of immune guinea-pigs transmitted to other animals confers immunity.



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### OF MEDICAL SCIENCE.

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#### SHALL THERE BE A FOUR YEARS' COURSE?

WITH the recent action of the Association of American Medical Colleges the compulsory three years' course may be regarded as an accomplished fact. The advocates of advanced education are, however, not satisfied with this. The voluntary four years' course is an old thing; the compulsory four years' course, recently adopted by Harvard, by the Woman's Medical College of Pennsylvania, and by the University of Pennsylvania, is not now first heard of; but the agitation to make all of the schools of high grade four years' schools, and thus to draw as sharp a line between them and the "three-termers" as formerly existed between the "three-termers" and all but the exceptional "two-termers," is daily becoming more active.

At first sight, the movement seems worthy of enthusiastic encouragement. On further reflection, however, the thought occurs that perhaps the result aimed at can be more effectively accomplished by other means. If by three years' attendance upon college, under certain conditions, one can be as well and as thoroughly equipped for the duties of the physician as he could be by four years' attendance under present conditions, all will agree that the enforced loss of another year in pupilage may well be spared.

The present college-term occupies six months. Why should medical students have six months vacation, while other students are mentally and physically satisfied with three months vacation? Three terms of eight months each will surely give the student as much instruction as he can get in four terms of six months each, and will probably give him more instruction by enabling subjects to be thoroughly treated that are now unavoidably slurred over.

There is no good reason why the college-term should not be lengthened to eight months, or even to nine months, and there are many reasons why it should be so lengthened.

Then, again, much time is now wasted in all our colleges, even in those that require the highest standard of entrance-qualification, in teaching subjects with which the student should be thoroughly familiar before beginning his medical education; and many subjects that ought to be taught are omitted because even after three or four years' attendance upon lectures, the student lacks the necessary training to appreciate these subjects.

Chemistry and physics offer the most striking examples. Neither physiology, pathology nor therapeutics can be thoroughly understood by one who has but a superficial acquaintance with chemistry and physics; yet in no medical college in the United States is there even a pretence of a proper teaching of these fundamental sciences, or a proper entrance-qualification therein demanded. The year or two years spent in teaching elementary chemistry is that much time wasted, when viewed from the standpoint of modern medical science. Almost all that is now taught should be demanded as part of the qualification preliminary to entrance; and the medical student should be instructed in those now recondite mysteries of animal and vegetable chemistry, the chemistry of life, disease and death, through and by which the future triumphs of medical art and science are to be won.

Why is it that the brilliant researches of the day into the causation of disease, the processes of infection, recovery and immunity, the ultimate action of drugs in the animal economy, are so much Greek to the average American physician? Simply because he has not been taught the chemical A B C of the language in which these researches are conducted.

With physics the case is even worse. Men may be admitted to medical schools who scarcely

understand what is meant by the center of gravity, who know nothing of the laws of light, and who have but the vaguest idea of electricity as something that gives shocks and is somehow concerned in telegraphy and other modern wonders. Of what earthly use is it to talk to such men of blood-pressure, of refraction, of molecular vibration? They may learn how to manipulate trial-lenses and test-types, how to place sponges on nerve and muscle-points, and even to avoid the use of digitalis in patients with marked atheroma; but it is all in a bungling apprentice fashion; it is mere simian imitation; there is no intelligent understanding of anything beyond the simplest mechanical routine.

In every college there should be a chair of Medical Physics co-equal with the chair of Medical Chemistry, and the entrance-qualification in chemistry and physics should be such as to leave the chairs free to teach the advanced technical chemistry and technical physics necessary to a complete medical education. This, in turn, would necessitate a knowledge of mathematics possessed by few of the present race of medical students.

In languages, a fair knowledge of elementary Latin and Greek should be required—but likewise some acquaintance with French and German; for while it is true that a knowledge of results can be obtained by the student from his teachers and from English medical literature, yet the reading of certain great monographs in the original is in itself an introduction to methods of investigation and habits of thought of no mean importance in moulding the career of the physician.

Thus, if a fourth year is to be added to the term of medical study in America, it can best be added as a preparatory course; offering to those without adequate preliminary training in the fundamental natural sciences and in the necessary languages the opportunity to equip themselves. It should not be required of those already thoroughly equipped. Such a preparatory course could also well include an introduction to biology and technical training in the use of the microscope; and indeed Harvard will, under the new rules, admit to advanced standing graduates of scientific or classical schools in which histology, anatomy, physiology and chemistry are taught. An adequate biologic course should likewise be added to the first and second years' studies; and in time this should be gradually advanced and enlarged and a preliminary biologic qualification be required.

If, then, the qualification for matriculation at colleges of medicine be made adequate; if the terms be lengthened to eight or nine months each, and if the third year be largely devoted to clinical work, we see no necessity for a compulsory four years' course for the medical practitioner. Those who desire to be investigators and teachers, or to devote themselves to special lines of work, should have the opportunity of electing certain additional laboratory or clinical courses for a fourth, a fifth, or a sixth year of study. Some fitting recognition might be devised as reward for such additional devotion to science.

The Medical Department of Grant University at Chattanooga offers two diplomas—the ordinary diploma for the present two years' course, and a different diploma for three years of study. So too, the Medico-Chirurgical College of Philadelphia offers the degree of M.D. *cum laude* for four years' work. A better, though we fear impracticable, plan would be the granting of the degree of Bachelor of Medicine (with the right to practise, subject to State laws) after three terms of eight months each, and the doctorate in recognition of one or more terms of additional work at any subsequent time.

#### THE DIFFERENTIAL DIAGNOSIS OF RÖTHELN, MEASLES, AND SCARLATINA.

It is only within the last quarter of a century that Rötheln has been fully recognized as a distinct disease. Previously it had been regarded by some as an irregular form of scarlet fever; by others as an irregular form of measles, and by a third group of physicians as a hybrid of these two diseases. There were yet others who looked upon it not as an exanthem at all, but as a mere symptomatic rash, like urticaria or erythema; hence it came to be occasionally described as an epidemic roseola.

The early observations of STEINER, THOMAS, and others, and the more recent studies of such close observers as CHEADLE, EDWARDS, and GRIFFITH not only leave no room to doubt that Rötheln is a specific, infectious, and highly contagious disease, but they have also determined its constitutional and cutaneous characters with exactness, and its entire independence as a substantive affection. The descriptions of these observers, however, and those of other writers upon the subject by no means tally, and the practitioner who, for the first time finding himself in the midst of an epidemic of an eruptive disease

that, from his general reading, he suspects to be R  theln, turns to his books and looks for the accounts of this disease one after another, will probably end in confusion worse confounded.

The cause of these wide differences is four-fold. First: R  theln is a comparatively new or newly-known disease, and the observer who has not yet beheld it in all its phases places upon record views necessarily incomplete. Second: It is a disease of wide divergence from type, not alone as regards individual cases, but even as regards whole and extensive outbreaks. Therefore, one who has seen much of it may readily mislead himself into the belief that his description covers the entire ground. Third: It is a malady intensified to a remarkable degree in public institutions, in which it occurs with a severity not seen in private practice. The asylum physician, therefore, describes a disease unknown to the most experienced outside practitioner. Finally: The traditions still have a measure of influence, and here and there may be detected more stress upon its likeness to measles or scarlatina than upon its unlikeness to them, or upon the trenchant lines that separate all three.

It is thus no matter of wonder that the differential diagnosis between R  theln and measles, on the one hand, and scarlatina, on the other, still vexes the minds of practitioners. If all three diseases were equally unimportant, and the diagnosis were without bearing upon immediate action for the prevention of outbreaks of grave disease in households, schools, or communities, the physician might, in a given case, be permitted to temporize. But it is not so. The public demands and the physician feels himself impelled to an early decision. The period of isolation for the settling of doubts must be short. *Omne ignotum terribile*. The case in question, mild as it is, may be a case of scarlet fever or measles—a choice of evils in a school.

In contrast with measles and scarlatina R  theln presents as a rule slight and transient fever or other constitutional disturbances; often so trifling as to attract little attention, often absent altogether. The eruption appears early; it is in many cases the earliest manifestation. It is irregular in character and distribution. It commonly appears first about the head and face, and sometimes resembles that of measles; but the macules are of a brighter pink and do not tend to the crescentic arrangement; less often it resembles that of scarlet fever; but it is paler. It appears and disappears irregularly over the surface, so that

a fresh patch may show itself just as a patch elsewhere is fading. Catarrhal manifestations are slight and as a rule restricted to the upper air-passages. The lymphatic glands of the neck are more or less swollen, the posterior rather than the anterior chains being infiltrated; and this is an early symptom. At the end of four days, sometimes as late as the fifth or sixth day, the rash vanishes without desquamation, save where it has been unusually intense.

Throat-symptoms, if present at all, are trifling and unlike those of scarlatina; catarrhal bronchitis does not occur; the initial fever, when present, subsides slowly rather than abruptly, and is insignificant; the temperature does not often reach 101   F.; moreover, the pyrexia is transient, differing in all these respects from that of measles and that of scarlatina. Chill, convulsions, and vomiting do not mark the invasion. If the eruption suggests measles of a mild type, the constitutional symptoms declare for R  theln; if the rash resembles that of an atypical scarlet fever, the absence of the characteristic general disturbances of the latter points the way to a diagnosis.

Cases of R  theln occur, as in the other eruptive diseases, in which for a time the diagnosis is impossible, but, in proportion as we attach importance to the broad distinctive traits of the disease and ignore minor symptoms, the number of these cases rapidly diminishes.

#### THE RETIREMENT OF PROFESSOR DA COSTA FROM JEFFERSON MEDICAL COLLEGE.

WE are authoritatively informed that PROFESSOR DA COSTA will not again take part in the clinical lectures at Jefferson Medical College. This announcement can occasion only profound regret among the friends and alumni of the college, with whom the name of DA COSTA stands for the embodiment of what is best and noblest in medicine and as representative of the ideal in teaching. DR. DA COSTA's resignation from the Chair of the Practice of Medicine is yet fresh in memory. By the action of the Board of Trustees of the College he was made Emeritus Professor in the department that he had for so many years conducted with such signal ability and distinction, and upon the invitation of the Faculty he delivered his usual course of clinical lectures last winter. DR. DA COSTA has now withdrawn from all teaching connection with Jefferson College. He will, however, continue as Visiting



Physician to the Pennsylvania Hospital, and in connection therewith will deliver the usual course of clinical lectures.

## REVIEWS.

### TEXT-BOOK OF THE ERUPTIVE AND CONTINUED FEVERS.

By JOHN WILLIAM MOORE, B.A., M.D., M.Ch., University Dublin; Fellow and Registrar of the Royal College of Physicians of Ireland; Physician to the Meath Hospital, Dublin, etc. 8vo, pp. xxv, 535. New York: William Wood & Co., 1892.

It is a great pity that a book so full of information, so philosophic in its conception, so lucid in its expression as is the one before us, should be so badly printed as to destroy the pleasure that would otherwise be experienced in reading it.

It begins with an Introduction, the successive chapters of which treat of the intimate nature of fever, the intimate nature of contagion, the micro-parasitic diseases, and the general principles of treatment of the eruptive and continued fevers, the latter topic being subdivided into two heads—preventive treatment and curative treatment.

Part II. deals with the exanthemata, under which head the author includes erysipelas. Part III. deals with the continued fevers—febricula, typhus, typhoid and relapsing fevers; while the concluding chapter reviews recent investigations into the subjects of infection and immunity. There is an excellent index.

The author treats fully and intelligently of the pathology, the symptomatology in detail, the diagnosis, prognosis, and treatment of the various diseases studied. He has drawn freely upon literature, classic and ephemeral, but everything has been subjected to the touchstone of his own rich experience and ripe judgment.

The book is a welcome addition to literature, and will be extremely useful alike to the practitioner of experience and the younger man seeking safe guidance and wise counsel.

**SPECTACLES AND EYE-GLASSES: THEIR FORMS, MOUNTING, AND PROPER ADJUSTMENT.** By R. J. PHILLIPS, M.D. With forty-seven illustrations. Philadelphia: P. Blakiston, Son & Co., 1892.

IN writing this most excellent little treatise, Dr. Phillips has performed a genuine service alike to the profession, the trade of the optician, and the public. So much was the work needed, and so well is it done, that even a slight word of criticism seems ungrateful. Even those who know the great medical importance of a proper correction of errors of refraction have generally or often been sadly neglectful of a matter that is of exactly equal importance—the proper manufacture and fitting of the spectacles. Both physician and, strange to say, the optician, have been unaccountably indifferent in the matter. It is to be hoped that this little volume may help toward a recognition of the mistake, and may possibly lead to larger and completer, more detailed, handbooks upon the subject. In the reviewer's opinion, Dr. Phillips should have been far less lenient as regards eye-glasses, inferior therapeutically as they generally

are to spectacles. And he should not have failed to condemn emphatically and explicitly the flimsy, good-for-nothing, limp, and stringy temple wires and bridges commonly sold by the commercialized optician.

**TRAITEMENT DES PLEURÉSIES PURULENTES.** Par G. M. DEBOVE et M. COURTOIS-SUFFIT. Small 8vo, pp. 231. Paris: J. Rueff et Cie, 1892.

THIS is the second of a series of neatly bound and inexpensive books written by standard authors and issued under the direction of Charcot and Debove. The work starts out with the proposition that purulent pleurisy is not a single morbid entity, but that the process differs and the therapeutic procedure must be selected in accordance with the differing pyogenic organisms present. The subject is presented in three parts. In the first part the evolution of the current methods of treatment is traced. The second part considers these methods in detail, together with an analysis of their *rationale*, the indications for their individual selection, the dangers of operation, and the means of obviating them. In the third part of the work, the different varieties of purulent pleurisy, with their distinguishing clinical characteristics, and the respective indications for treatment are presented. The book can be cordially commended and may be read with much profit.

## SOCIETY PROCEEDINGS.

### AMERICAN OTOLOGICAL SOCIETY.

*Twenty-fifth Annual Meeting, held at New London, Conn., July 19th, 1892.*

THE Society was called to order by the President, DR. GORHAM BACON, of New York.

DR. OREN D. POMEROY, of New York, read a paper entitled "Cases of Mastoid Disease Exhibiting Somewhat Extensive Carious Processes." He reported six cases in which no effort was made to remove all of the dead bone, but whatever was loose or readily detachable was taken away. Adequate antiseptic drainage was carefully looked after, and the vital energies were kept up by stimulants, tonics, food, and proper nursing.

It seems unaccountable that only one of these cases resulted fatally, when it is known that any considerable quantity of dead bone in the vicinity of the brain may induce fatal cerebral disease. It does not seem proper to attempt the removal of dead bone if the meninges are in danger of being encroached upon.

Numerous cases are on record in which a considerable portion of the bone has separated, leaving uncovered meninges, without fatal consequences. Moreover, when all the dead bone is removed, reparative action does not commence until a new barrier of dead bone has been established.

DR. B. ALEXANDER RANDALL, of Philadelphia, presented "Preliminary Notes on Craniometric Studies in Relation to Aural Anatomy." Only 122 skulls, 73 broad-headed, 33 long-headed, and 16 medium in index were used in the tabulation, and the only clear showing was that maximum or minimum dimensions might be found on either side and in any form of skull. The

greater danger of the right side and of the brachycephalic skull receives slight confirmation, the cerebral fossa being actually more often lower on the left; but no deductions should be attempted from so small a series of cases, and any indications are probably worthless that are derived from less than one thousand skull-measurements.

DR. CHARLES J. KIPP, of Newark, N. J., reported "A Case of Purulent Inflammation of the Middle Ear, with Double Optic Neuritis and Other Symptoms of Intracranial Lesion, but without Tenderness of the Mastoid Process, in which the Opening of the Mastoid Cells was Followed by Rapid Subsidence of the Optic Neuritis and Cure of the Disease." Particular attention was called to the absence of tenderness over the mastoid process even on percussion, and to the desirability of repeated ophthalmoscopic examination in prolonged middle-ear disease.

DR. C. J. BLAKE, of Boston, read "A Report of Mastoid Cases." Of twenty-five cases of mastoid congestion and inflammation seen in the first six months of this year, three were treated by the continuous cold coil with excellent effect; twenty-two were operated on at various stages and with various complications. Two cases died; one, complicated with pneumonia, on the ninth day; and the other, with meningitis from extension of the suppurative process from the middle ear through the tegmen tympani, on the tenth day.

DR. H. KNAPP, of New York, reported "A Case of Chronic Purulent Otitis Media; Old Pulmonary Tuberculosis; Opening of Mastoid; Death from Acute Basilar Meningitis; Autopsy." The patient was a man of thirty-five, who complained of headache. The temperature rose slightly, but there was no tenderness over the mastoid process. Subsequently, drowsiness developed, with nervous movements of the hands. For three years there had been a discharge from the right ear, which ceased for a week. The temperature reached 102.2°. There was headache, stupor, incoherence and difficulty of speech, and delirium. The pupils and fundus were normal. There was no pain on percussion of the skull. The mastoid process was opened and found sclerotic throughout. The superficial portion of the bone presented some evidence of disease, but the deeper parts appeared healthy. The patient sank and died a few days after the operation. The autopsy disclosed the existence of basilar meningitis and the lungs presented evidences of pulmonary tuberculosis.

DR. J. B. EMERSON, of New York, reported "A Case of Pyemia Following Acute Suppurative Otitis: Recovery." The patient was a woman, twenty-four years old, who, following an attack of influenza, had pain in the left ear, followed by a purulent discharge. While under observation, signs of septic pneumonia appeared. Successive abscesses developed over the right sterno-clavicular articulation, over and above the sternum on the left side of the neck. The patient, nevertheless, slowly and steadily improved, the treatment extending over a period of four months.

DR. T. Y. SUTPHEN, of Newark, N. J., read a paper entitled "Mastoid Operation in a Case of Middle-ear Disease, with Septicemic Symptoms and Cerebral Complications." The case was that of a girl, sixteen years old, with chronic otitis media of the left ear for several

years. For a few days there had been intense pain and a temperature of 105°. There was no sign of mastoid trouble other than the pain. General septicemic symptoms appeared. A hard swelling was discovered beneath the sterno-cleido-mastoid muscle. The mastoid process was opened. Only a drop or two drops of purulent fluid were found. The condition of the patient continued unfavorable until pus began to flow freely from the mastoid wound. The temperature then fell to 99°, and the patient made a rapid recovery.

DR. GORHAM BACON, of New York, reported "A Case of Mastoid Disease Following an Operation for the Removal of Adenoid Vegetations." The patient was a woman, thirty years old, who had had adenoid vegetations removed from the naso-pharynx during an attack of subacute pharyngitis. Two days later she had severe pain in the right ear, followed by a muco-purulent discharge. Symptoms of mastoid disease being present, she was immediately put to bed, a Leiter coil applied, and the ear douched frequently with a warm boric acid solution. The mastoid symptoms soon disappeared.

Subsequently a periosteal abscess on the right side was opened and about a dram of pus escaped. The patient made a good recovery, and at no time did the temperature rise above 100° F.

DR. SAMUEL THEOBALD, of Baltimore, read a paper "On the Value of Weak Solutions of Bichloride of Mercury in the Treatment of Otitis Media Suppurativa." He reported good results from the employment of weak solutions (usually 1 to 8000) of mercuric chloride, with which the ear is simply syringed. In otorrhea it was usually not necessary to repeat the syringing more than once in twenty-four hours.

DR. H. KNAPP, of New York, exhibited a specimen showing perforation on the medial side of the mastoid, removed from a patient dying from cranial abscess.

DR. D. B. ST. JOHN ROOSA, of New York, read a paper entitled "Wound of the Lateral Sinus in the Course of Mastoid Operation, Followed by Septicemia, with Recovery." The patient was a young woman, twenty-three years old, who for years had had recurrent attacks of suppuration of the left ear. It was thought that the mastoid process was carious, and it was decided to open it by means of the drill. A large cavity was found, from which issued a gush of venous blood, which could not be checked by ordinary means. It was believed that the lateral sinus had been perforated. The wound was plugged with iodoform-gauze. Four days later, when the wound was dressed, there was no trouble from bleeding. Symptoms of septicemia then set in, but after two months of expectant treatment the patient completely recovered.

DR. F. L. JACK, of Boston, read a paper entitled "Remarkable Improvement in Hearing by Removal of the Stapes." He reported the case of a girl, twelve years old, with chronic suppurative otitis, in which portions of the membrani tympani, the malleus, the incus, and the stapes were removed. There was little hearing in the affected ear. On the morning following the operation the hearing was much better.

DR. C. J. BLAKE, of Boston, read a paper entitled "Middle-Ear Operations." He stated that in chronic non-suppurative disease of the middle ear, when surgical interference is determined upon on account of

obstruction to the sound-transmission through the ossicular chain, the removal of the incus or malleus may be considered as merely incidental, since the stapes is the important element. Various procedures for the immobilization of the stapes have been proposed and practised, but the removal of the stapes has until recently been left out of serious consideration. The justification of this procedure is to be premised from the fact that the stapes is especially liable to be tied down by the reduplications found in about 80 per cent. of normal ears.

DR. B. ALEXANDER RANDALL, of Philadelphia, read a paper entitled "Excision of Membrane and Malleus for Catarrhal Deafness, Followed by Suppuration, Mastoid Empyema, and Burrowing Abscess of the Neck." The case was one in which ordinary methods proved unsuccessful. The incus was pushed up and not extracted. Five days after the operation, marked febrile symptoms appeared and a profuse muco-purulent discharge set in. In the course of four weeks, it was clear that a mastoid empyema was breaking into the digastric fossa. An incision was made over the mastoid, the pus evacuated, the bone sinus scraped, and the outer surface of the mastoid trephined, opening the antrum freely. On irrigation the fluid found its way into the pharynx by a lower opening; the temperature fluctuated greatly during the following fortnight, with oculo-motor paresis, diplopia, and some mental aberration, suggestive of intra-cranial abscess. Recovery ultimately ensued, but there was no improvement of hearing.

DR. D. B. ST. JOHN ROOSA, of New York, reported "A Case of Exostosis of the External Auditory Meatus." The patient was a woman forty-six years old, who for twenty-one years had impairment of hearing and tinnitus in the right ear, and at times pain in both ears. The external auditory canal was almost completely closed by a bony growth at the junction of the osseous and cartilaginous portions. The woman could hear a watch only on contact. The mass sprang from the posterior wall, and left a small space between it and the anterior wall. On operation it proved to be a very thin plate of bone, and was removed by the chisel without difficulty. The patient did well, and the hearing distance for the watch became 12/XL.

DR. C. J. BLAKE, of Boston, stated that in two different families he has seen multiple exostoses occurring in three generations, in grandfather, father, and son.

DR. R. A. REEVE, of Toronto, reported a case of exostosis of the meatus, in which the growth had become so large as to press upon the tissues of the opposite wall of the canal, causing intense suffering and demanding operation.

DR. E. E. HOLT, of Portland, Me., exhibited an ear bitten off by a horse, and made a brief report of the case.

DR. C. J. BLAKE, of Boston, exhibited the plans for the new Aural Building of the Massachusetts Charitable Eye and Ear Infirmary.

The following officers were elected: *President*, Dr. Gorham Bacon, New York; *Vice-President*, Dr. Huntington Richards, Des Moines; *Secretary and Treasurer*, Dr. J. J. B. Vermyne, New Bedford, Mass.; *Member of Executive Committee of Congress of American Physicians and Surgeons*, Dr. William H. Carmalt, New Haven; alternate, Dr. F. B. Loring, Washington.

The following were elected to membership: Dr. J. Elliott Colburn, of Chicago, Ill.; Dr. Robert Tilley, of Chicago, Ill.; Dr. B. F. Milliken, of Cleveland, O.

## NEWS ITEMS.

*University of Pennsylvania.*—The compulsory four years' course goes into operation with the session beginning October 2, 1893. It is announced that as a desire has been expressed by some students to avail themselves of such a course at once, it has been decided to offer the opportunity of a full four years' graded course to those who desire it with the opening of the next session beginning October 2, 1892.

Dr. Tyson has resigned the position of Dean, and Dr. John Marshall has been chosen to succeed him.

*The National Popular Review* is the name of a new "illustrated journal of preventive medicine and applied sociology for the profession and the people," published at San Diego, and under the editorial charge of Dr. P. C. Remondino. The first number bears date of July, and contains a number of interesting articles, excerpts, and reviews. The subject-matter is of such a character as will likely attract professional and popular interest.

*Yale University.*—At the recent graduation exercises of the Medical Department of Yale University the degree of Doctor of Medicine was conferred upon twenty-two graduates. Dr. George M. Sternberg, U. S. A., read the Annual Address in Medicine, on "The Etiology of the Infectious Diseases, with the Explanation of Acquired Immunity from these Diseases."

*University of Vienna.*—Otto Bergmeister has been elected Professor Extraordinary of Ophthalmology; Josef Englisch, Professor Extraordinary of Surgery; Ferdinand Hochstetter, Professor Extraordinary of Anatomy; Alexander Kolisko and Richard Paltauf, Professors Extraordinary of Pathologic Anatomy.

*Rush Medical College.*—Dr. Charles Warrington Earle has been called to the chair of Obstetrics and Diseases of Children in Rush Medical College, recently made vacant by the death of the late Professor Knox. Dr. A. C. Cotton has been elected Clinical Professor of Diseases of Children.

*The American Therapist* is the name of a new monthly, the initial number of which is dated July. Dr. John Aulde is the editor.

*Pravaz*, the inventor of the hypodermatic syringe, died recently at Lyons.

## BOOKS AND PAMPHLETS RECEIVED.

Elements of Materia Medica and Therapeutics, including the Whole of the Remedies of the British Pharmacopoeia of 1885 and its Appendix of 1890. By C. E. Armand Semple, B.A., M.B. Cantab., M.R.C.P. Lond. With 440 Illustrations. London: Longmans, Green & Co., 1892.

The Pathology and Rational Treatment of the Uric-acid Condition. By James Wood, M.D. Reprint, 1892.

The Pulmonary Complications of Influenza. By J. M. Da Costa, M.D., LL.D. Reprint, 1892.